

ATTACHMENT RR

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**United States Environmental
Protection Agency**
75 Hawthorne Street
San Francisco, CA 94105

**Los Angeles Regional Water
Quality Control Board**
101 Centre Plaza Drive
Monterey Park, CA 91754-2156



Pete Wilson
Governor

March 24, 1998

Cal/EPA

Mr. Phillip J. Carroll, President and CEO
Shell Oil Company
900 Louisiana
One Shell Plaza
Houston, Texas 77252

FEDERAL EXPRESS
AIRBILL PACKAGE TRACKING
NUMBER 7685426221

METHYL TERTIARY BUTYL ETHER (MTBE) POLLUTION INVESTIGATION OF THE CHARNOCK SUB-BASIN (FILE NUMBER 96-042)—SHELL OIL COMPANY— REFINED PETROLEUM HYDROCARBON PIPELINE INVESTIGATION (FILE NUMBER 97-097).

Dear Mr. Carroll:

The Los Angeles Regional Water Quality Control Board (Regional Board) and the United States Environmental Protection Agency (EPA) (collectively "the agencies") have determined that Shell Oil Company (Shell) is required to submit additional information and provide a workplan to conduct field work by April 24, 1998, as described in greater detail below.

The agencies have determined that Shell's pipeline is within the suspected source area of the MTBE contamination found in the Charnock Sub-Basin. As an owner or operator of a potential source of MTBE contamination in the Charnock Sub-Basin, Shell is required to provide information and a workplan to further investigate its pipeline facility, even if you believe that Shell has or may have a defense to liability for the investigation and remediation of the Charnock Sub-Basin MTBE contamination. The MTBE contamination has been determined to constitute a condition of pollution and an imminent and substantial endangerment to public health and the environment. An immediate investigation of potential sources is critical to both restoration of this drinking water resource and a determination of financial responsibility for its investigation and remediation.

A. BACKGROUND INFORMATION

Shell operates a subsurface pipeline that transmits gasoline containing MTBE through the Charnock Sub-Basin Investigation Area (Investigation Area). The pipeline within the Investigation Area is beneath Sawtelle Boulevard, and bounded on the south by Washington Boulevard, and the north by Interstate Highway 10 (Figure 1). Gasoline product is delivered to the Shell Carson Plant via shipments from tankers that off load fuel at Mormon Island in the Los Angeles Harbor. The gasoline is then shipped northward and through the Investigation Area, and then to the Shell terminal in Van Nuys. The Shell Pipeline in the Investigation Area is composed of several different sections of pipeline of different diameters and ages. According to drawings of the Ventura Products Line (Shell Pipeline) contained in a March 17, 1997, report from Pacific Environmental Group submitted on behalf of Shell Oil Products

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Company, the pipeline in the Investigation Area is composed of 12 sections of pipe of different ages and diameters, some as short as 20 feet, others greater than 2,745 feet. The Shell Pipeline contains five different sections of 4.03-inch (4-inch) inside diameter (ID) sections; each installed at different times, during the years 1952, 1956, 1957, 1959, and 1960. The Shell Pipeline also contains one 6.07-inch ID section, installed in June 1964, and one 6.065-inch ID pipeline installed in February 1964. These 6-inch sections are not connected to each other, but to other pipeline sections. The Shell Pipeline contains five sections of 8-inch pipeline. One section is 8.07-inch and was installed in 1965, three sections are 8.249-inch and installed in 1970, the last is 8.187-inch, also installed in 1970. The Ventura Products Line drawings also show that some sections of pipeline have been either removed or abandoned in place, and show locations of pipeline bends, joints, valves, cathodic protection points, cased crossings, and a fair level of street detail.

Shell has already conducted studies (soil gas survey and a tracer survey) designed, in part, to determine whether the Shell Pipeline has released or may be releasing gasoline containing MTBE. Shell has also conducted pressure tests of the pipeline, the latest in September 1996. According to Shell, the pipeline tested tight in accordance with applicable regulations.

The agencies have reviewed the following documents as part of assessing whether the Shell Pipeline has contributed MTBE to the Charnock Sub-Basin

- 1) Results of Soil Gas Survey in Sawtelle Boulevard and Sepulveda Boulevard Related to Methyl Tertiary Butyl Ether (MTBE) Contamination at City of Santa Monica Charnock Wellfield, Los Angeles, California. Report dated September 26, 1996, by Komex H2O Science, on behalf of the City of Santa Monica.
- 2) Soil Gas Survey Results Chevron and Shell Pipelines Near City of Santa Monica Charnock Well Field Los Angeles, California. Report dated March 17, 1997, by Pacific Environmental Group, Incorporated, on behalf of Shell Oil Products Company and Chevron USA Production Company.
- 3) TRACER TIGHT® LEAK TEST of Shell Pipeline Corporation at Los Angeles, California, Sawtelle Boulevard (Pico Blvd. to Washington Blvd.). Report dated July 22, 1997, by Tracer Research Corporation, on behalf of Shell Ventura Products Pipeline.
- 4) Pipeline maintenance records made available to the agencies at the Los Angeles offices of Pillsbury, Madison and Sutro.

B. RECENT INVESTIGATIVE WORK

- 1) City of Santa Monica Soil Gas Survey

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During August 1996, The City of Santa Monica (CSM), through their consultant Komex H2O Science (Komex), conducted an active soil gas survey along limited sections of the Shell Pipeline along Sawtelle Boulevard and Sepulveda Boulevard. Many of the sections tested were at joints or bends in the pipeline. Soil gas samples were analyzed for volatile fuel hydrocarbons (VFH), benzene, toluene, ethylbenzene, total xylenes (BTEX), MTBE, methane, oxygen, and carbon dioxide (CO₂).

The Komex study developed a screening criteria to identify areas of potential concern. The screening criteria is as follows: 1) VFH concentrations in soil gas samples greater than 100 µg/L; and, 2) VFH and CO₂ concentrations in soil gas samples greater than 50 µg/L, and 5%, respectively. Carbon dioxide increases can indicate areas where hydrocarbons are being aerobically degraded. During aerobic

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degradation of petroleum hydrocarbons CO₂ will increase. Typical CO₂ values in soil gas where aerobic degradation is not taking place are an order of magnitude lower than 5% (approximately 0.5% or less). The Komex investigation identified five areas along Sawtelle Boulevard which met or exceeded the screening criteria. There were no background soil gas samples taken outside of the course of the pipeline.

2) Shell and Chevron Soil Gas Survey

After the Komex study was complete, Pacific Environmental Group (PEG) conducted a similar but more extensive soil gas investigation during January and February 1997, for Shell and Chevron. (Chevron also operates a refined petroleum product pipeline within the Charnock Sub-Basin Investigation Area. This pipeline is also being considered as a potential source by the agencies and is being evaluated in a similar manner to the Shell Pipeline).

The PEG study was conducted in a manner similar to the Komex study. Its main objectives were to assess areas of concern previously identified by Komex in greater detail and to expand the area investigated by Komex to include all sections of the Shell and Chevron pipelines within a one-mile radius of the Charnock Wellfield.

Areas of concern identified by Komex as exceeding the screening criteria were investigated by PEG with a denser array (10 to 20 foot spacing) of soil gas sampling points. In areas where Komex had not investigated, PEG sampled soil gas at a maximum of 100 foot intervals and more closely where the pipeline had various bends or joints, or exceeded the screening criteria. Soil gas samples were collected using a 1-inch diameter probe driven to a depth of approximately 5 to 8 feet and approximately 5 feet laterally from the pipeline course.

The PEG final report compared data gathered to the criteria developed by Komex (VFH concentrations greater than 100 µg/L and/or VFH and CO₂ concentrations greater than 50 µg/L, and 5%, respectively). Generally the PEG data was similar to the Komex data in the areas that Komex had investigated. A total of 148 soil gas sampling points were installed and sampled along the Shell Pipeline by PEG. Ten areas that PEG investigated detected soil gas concentrations in excess of the Komex screening criteria. Three of these areas were previously identified by Komex. MTBE was detected in soil gas at 10 locations along the Shell Pipeline, concentrations were less than 10 µg/L for all samples. TVH's were detected at concentrations from non detect (less than 1 µg/L) up to 3,200 µg/L.

3) Shell Tracer Tight Test

The soil gas surveys conducted by Komex and PEG identified areas of concern based on Komex's and PEG's shared screening criteria. However, Shell chose to conduct a tracer study to further evaluate the current (at the time of the study) integrity of the Shell Pipeline. Shell's contention is that the areas of concern identified by the Komex and PEG studies were from sources other than leaks from the Shell Pipeline.

Tracer Research Corporation (TRC) was contracted by Shell to conduct a chemical tracer study. A chemical "tracer" was added to the Shell gasoline, moved into the area of concern for the Shell Pipeline (within the Charnock Sub-Basin Investigation Area), and held at or slightly above operating pressure for 24 hours. Soil gas was sampled along the course of the pipeline and analyzed for the tracer chemical. Any detection of the tracer in soil gas samples was to indicate a leak from the pipeline.

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The TRC study focused on 11,860 linear feet of the Shell Pipeline within an approximate one-mile radius of the Charnock Wellfield. The investigation conducted by TRC, relied on the use of a highly volatile chemical tracer ("Tracer A") which was injected into the pipeline, at the Shell Carson Plant, while gasoline was being transmitted through the same Shell Pipeline. The result was that the tracer was mixed with gasoline at an amount and duration sufficient to inoculate the entire length of the Shell Pipeline under study. According to TRC the gasoline in the Shell Pipeline contained Tracer A at a minimum of 98 mg/L throughout the Charnock Sub-Basin Investigation Area. If there was an existing pipeline leak, the gasoline containing the tracer would leak out, volatilize from the inoculated gasoline, diffuse through the soil and then be detected via soil gas sampling. An array of 630 soil gas sampling probes were installed within 10 feet of the Shell Pipeline along the course of the pipeline in the Charnock Sub-Basin Investigation Area. The 630 soil gas probes were installed by TRC prior to the pipeline inoculation. According to the TRC Final Report, "TRACER TIGHT® LEAK TEST of Shell Pipeline Corporation at Los Angeles, California, Sawtelle Boulevard (Pico Blvd. to Washington Blvd.)" no releases of gasoline product containing Tracer A were identified to have leaked from the Shell Pipeline during this test; however some tracer was found at 7 of the soil gas sampling probes.

C. ITEM REQUIRING FURTHER CLARIFICATION

Shell is required to respond to the following comment.

Prior to conducting the TRC study, Shell and TRC represented to the agencies' staff and others involved in the Shell Pipeline investigation that the chemical tracer (reported to be inert) used in the TRC test was highly volatile and highly mobile, and for this reason not found in soils unless a pipeline leak was indicated. The agencies relied on this definitive representation prior to approving TRC's workplan for the Shell Pipeline. TRC now indicates that Tracer A was found in low concentrations (near the method detection limit of 0.0001 µg/L) at 7 soil gas sampling probes. The concentrations of Tracer A were at or slightly above the method detection limit (MDL) of 0.0001 µg/L, and lower than the practical quantitation limit (PQL) of 0.001 µg/L for soil gas samples from probes 248, 423, 424, 428, 525, 537, and 593. Tracer A was detected in soil gas from probe 593 at 0.00016 µg/L, and the background sample for this location, that was taken in advance of pipeline inoculation, was estimated by TRC to be 0.0008 µg/L. The levels of Tracer A detected in both samples (background and soil gas) were close to the detection limit, for this reason TRC does not consider these detections to be significant. However, the assertion that a background level of Tracer A existed is totally inconsistent with what the agencies understood to be a basic premise of the test.

D. SCOPE OF REQUIRED WORK

A copy of a flowchart entitled "Charnock MTBE Participation Flowchart" is provided as Appendix A to this letter. The flowchart provides an overview of the agencies' approach for assigning responsibility for the MTBE pollution within the Charnock Sub-Basin Investigation Area.

(a) Information Request

You are required to provide the information called for in Appendix B. Even if you have already provided some of the information in response to a prior agency information request, you must resubmit that information in responding to this information request.

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(b) Required Workplan

The agencies believe the data available to date indicate there have been hydrocarbon releases along the Shell Pipeline. For this reason Shell is required to submit a workplan, as explained in greater detail below. All workplans must conform with the requirements contained in Appendices C through C-4.

Enclosed as Appendices C, C-1, C-2, C-3, and C-3.1, are requirements for site specific soil and groundwater investigations. Enclosed as Appendix C-4 are requirements for conducting a Soil Gas Investigation. These requirements are being provided by the agencies to ensure a rapid and consistent approach for evaluating sites which are potentially responsible for the Charnock MTBE contamination, which constitutes a condition of pollution. As explained in our June 5, 1997, letter, (copy attached) the initial investigation will focus on potential sources within approximately one mile of the Charnock wellfield which have or may have managed gasoline containing MTBE. (See attached Table 1 - Potential Sources Within the Charnock Sub-Basin Investigation Area).

The agencies found correlation's between physical changes (joints, areas where the pipeline was replaced with other pipeline, areas where pipeline segments were removed or abandoned in place, cased crossings, elbows, etc.) which are more susceptible to failure, and soil gas data suggesting a release along the pipeline. As a result Shell is required to submit a workplan for conducting a soil and groundwater investigation in accordance with the enclosed requirements (Appendix C, C-1, C-2, C-3, C-3.1) at each of the "sites" described in detail in section E below. Shell is also required to conduct a Soil Gas Investigation in accordance with Appendix C-4, also described in detail in section E below.

For consistency the agencies will specify the locations that you are required to further investigate by referencing the same probe locations referenced in prior reports by PEG (S-XXXX) and TRC (XXX), or the same pipeline survey point (XXXX+XX.X). The areas that the agencies specify will be considered sites and your workplan will need to address each of the sites described below. Shell must provide one document containing separate sections for each site workplan. You may put salient information for each site investigation (standard operating procedures) in appendices.

E. FIELD INVESTIGATION REQUIREMENTS

Based on the agencies evaluation of the studies conducted to date (Komex, PEG, and TRC), the agencies conclude that releases of hydrocarbons and MTBE have occurred at sites along the course of the Shell Pipeline within the Charnock Sub-Basin Investigation Area. Therefore the agencies are requiring full soil and groundwater investigations at these priority sites which are described in detail later in this letter. The goal of these investigations is to gain additional information concerning the extent of these releases and to determine the extent to which the releases along the Shell Pipeline may have come from fuel being carried within the Shell Pipeline. These investigations are required to be conducted in a manner consistent with the agencies' General Requirements for Soil and Groundwater Investigations described in Appendix C.

In a letter dated January 29, 1998, Shell asserted that the detections of hydrocarbons in the soil gas along the course of the Shell Pipeline are not indicative of releases from the Shell Pipeline. Instead Shell states "that similar results would be found on any other street in the areas with underground utility lines similar to those on which the soil gas samples were collected." In order to evaluate Shell's assertion, the agencies are requiring Shell to conduct a soil gas survey in an area of similar land use, traffic density, and underground utility structures but without a refined product pipeline. This data can be used by Shell and the agencies to establish background levels for key constituents along the Shell Pipeline and further

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evaluate Shell's assertion that these background levels would be found in areas without a petroleum pipeline.

1. Soil and Groundwater Investigation Requirements:

Shell is required to submit a workplan for conducting a soil and groundwater investigation at three sites along the course of the Shell Pipeline which are identified below. These sites were identified based on the data from the Komex, PEG, and Tracer Studies. Additionally, the agencies relied on data related to the pipeline construction and experience related to failure of pipeline facility components in identifying these sites.

The workplan must comply with the requirements found in Appendices C through C-3.1 of this document. The location of sites along the pipeline requiring investigation are identified using the probe locations referenced in prior reports by PEG, and are further defined in the three attached figures, Figures 2 through 4. An example of an investigation approach for the soil and groundwater investigation is enclosed as Figure 5.

For purposes of this investigation the term "key spots" will refer to all of the following:

1. Soil gas probes at which MTBE was detected;
2. Soil gas probes at which VFH were detected at concentrations greater than 100 $\mu\text{g}/\text{L}$;
3. Soil gas probes at which CO_2 was detected at concentrations greater than 5% and VFH were detected at concentrations greater than 50 $\mu\text{g}/\text{L}$;
4. Tracer probe detected tracer compound;
5. Physical features of the pipeline including joints, ends of casings, diameter changes, directional changes, age changes, fittings and valves.

Three Sites Requiring Full Soil And Groundwater Investigation

Site SP-F1 (Figure 2):

The area delineated by PEG probes S-4600 to S-4670. This area is approximately 200 to 300 feet north of the Westwood Channel Crossing on Sawtelle Boulevard.

At this site MTBE was detected in two soil gas probes, S-4600 (8.2 $\mu\text{g}/\text{L}$) and S-4670 (4.6 $\mu\text{g}/\text{L}$). The pipeline has at least one joint adjacent to S-4600. Additionally, due to the expected high permeability sediments in the Westwood Channel area and the channel's proximity to the Charnock Wellfield, releases in this area represent a relatively high risk to the Charnock Wellfield.

Site SP-F2 (Figure 3):

The area delineated by PEG probes S-7340 to S-7410.

At this site, MTBE was detected in probe S-7360 (2.2 $\mu\text{g}/\text{L}$) and probe S-7410 (2.6 $\mu\text{g}/\text{L}$). Carbon dioxide concentrations were detected in probe S-7410 at 8.6%. Additionally, the pipeline makes two 90 degree turns, changes age, and changes diameter (4-inch to 8-inch) at this site.

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Site SP-F3 (Figure 4):

This site is considered the area around Tracer Probe 593.

The tracer compound was detected at 0.00016 µg/L in this probe. The pipeline changes direction and changes size at this site. The pipeline has a cased crossing (Washington Blvd.) at this site. At PEG probe S-10860, approximately 50 feet north of Tracer Probe 593, TVH's were reported at a level of 12 µg/L. The minimum area of investigation at SP-F3 will encompass Tracer Probe 593, the two cased or sleeved crossing sections of the pipeline, and the pipeline joints and fittings. See Figure 4 showing approximate site boundaries. For each of these three sites, Shell must comply with the following monitoring well and soil boring requirements:

Monitoring Well Requirements: Monitoring wells must be placed such that they bracket the area of investigation. Upgradient wells shall be placed at an appropriate location upgradient from the most upgradient key spot within the site boundaries as defined on Figures 2 through 4. Downgradient wells shall be placed at an appropriate location downgradient from the most downgradient key spot within the site boundaries as defined on Figures 2 through 4. For Sites SP-F1 and SP-F2 a total of at least one upgradient and two downgradient monitoring wells are required. For Site SP-F3, a total of at least one upgradient and three downgradient monitoring wells are required.

Soil Boring Requirements: Soil borings shall be placed as close to the pipeline as practical (e.g. within 5 feet). Shell shall place one soil boring to investigate each of the "key spots" (as defined above) along the pipeline segments shown within the site boundaries in Figures 2 through 4. Additional borings should be placed at other features within the site boundaries (e.g. other underground utilities, etc.) in order to evaluate other (non-pipeline) sources.

Extent of Contamination: If MTBE is detected in any of the soil borings along the pipeline, then Shell shall place additional borings, and potentially monitoring wells, as necessary to establish aerial extent of contamination.

2. Soil Gas Investigation Requirements:

The agencies have determined (based on the Komex, PEG, and Tracer reports) that a complete soil gas investigation, consistent with requirements outlined in Appendix C-4, is required for the following site:

Site SP-SG1 (Figure 6)
The area of the Westwood Channel.

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Approximately 200 linear feet of the Shell Pipeline, where it crosses the Westwood Channel and Palms, have not yet been sampled for soil gas. As stated earlier, the agencies believe any releases in or near the Westwood Channel pose a significant risk. There are a number of key spots (as defined above) prone to potential failure in this area.

At a minimum, Shell must space soil gas probe locations 15' apart along the course of the pipeline within this study site. Probe locations must be placed as close as possible to the pipeline (eg. within 5 feet). Probe depths should be placed at 1 foot below and 10 feet below the pipeline at each probe location.

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In the future, the agencies may require additional soil gas investigation at other sites along the course of the pipeline with detected levels of hydrocarbons, MTBE, and carbon dioxide above background levels established in the background investigation described below.

3. Soil Gas Background Investigation Requirements:

The agencies are requiring Shell to perform a background soil gas survey in areas of similar land use, underground utilities and traffic as the area of the Shell Pipeline but with no refined products pipeline present beneath the street. Probes shall be placed such that vertical and horizontal extent of contamination is established in the background area. For consistency Shell is to analyze for all constituents analyzed in the PEG study, including CO₂.

Shell is encouraged to work with Chevron to conduct a joint background study. This data will enable the agencies and Shell to evaluate Shell's assertion that the soil gas detections in the area of the Shell Pipeline are from sources other than the pipeline.

Submission of Information and Workplan

Shell is required to submit two copies of the responses to the information required in Appendix B and the workplan(s) prepared in accordance with Appendices C through C-4 to:

David Bacharowski
Los Angeles Regional Water Quality Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754-2156

Steven Linder, P.E. (WST-8)
United States Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

Rey Rodriguez
Utilities Division
City of Santa Monica
1212 5th Street
Santa Monica, CA 90401

Denise Kruger
Southern California Water Company
P.O. Box 9016
San Dimas, CA 91773

Additional Requirements

Attached as Appendix B are the Information Request Requirements for the Shell Pipeline. Please review these requirements carefully.

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Authorities

This request is made pursuant to the following authorities: Porter-Cologne Water Quality Control Act, California Water Code Section 13267, the Safe Drinking Water Act Section 1431, 42 U.S.C Section 300i, and the Resource Conservation and Recovery Act Section 7003, 42 U.S.C. Section 6973. Failure to provide complete and truthful responses to the enclosed information requests and/or failure to provide a complying workplan and to properly conduct the required field work may result in penalties as provided in those Acts. As noted above, the deadline for providing both the required workplan and the required information is April 24, 1998.

Thank you for your prompt attention to this matter. Please call Mr. David Bacharowski at (213) 266-7546 or Mr. Steven Linder at (415) 744-2036 to discuss any technical issues. Please contact Mr. Jorge Leon at (916) 657-2428 or Ms. Laurie Williams at (415) 744-1387 with respect to any legal issues. We look forward to working with you.

Sincerely,

Dennis A. Dickerson
DENNIS A. DICKERSON
Executive Officer
California Regional Water Quality
Control Board, Los Angeles Region

PV for Julie Anderson
JULIE ANDERSON
Division Director
Waste Management Division
U.S. Environmental Protection Agency

Enclosures

cc: Jorge Leon, Office of Chief Counsel, SWRCB
David Spath, Division of Drinking Water and Environmental Management, State
Department of Health Services
Gary Yamamoto, Drinking Water Field Operations, State Dept. of Health Services
Steve Linder, United States Environmental Protection Agency
Laurie Williams, United States Environmental Protection Agency
Carl Sjoberg, Environmental Programs Division, Los Angeles County Department of
Public Works
Capt. Dennis Wilcox, Underground Storage Tank Program, City of LA Fire Dept.
Anthony Franchina, Shell Pipeline Corporation
Tim Franceschini, Shell Staff Pipeline Specialist
Randy Golding, Tracer Research Corporation
Keith Pritsker, City Attorney's Office, City of Los Angeles
Walter Crone, Ninyo & Moore
Michael Schwennesen, Ecology and Environment, Inc.
Craig Perkins, Environmental & Public Works, City of Santa Monica
Joseph Lawrence, Assistant City Attorney, City of Santa Monica
Rey Rodriguez, Utilities Engineer, City of Santa Monica
Brian Johnson, Underground Storage Tank Program, City of Santa Monica
Barry Groveman, Special Environmental Counsel for City of Santa Monica
Denise Kruger, Southern California Water Company
Rob Saperstein, Counsel for Southern California Water Company
Angelo Bellomo, Environmental Strategies Corporation

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Gino Bianchi-Mosquera, Geomatrix Consultants, Incorporated
Jerry Ross, Pillsbury Madison, and Sutro
John Verber Esq., Larson and Bernham

ATTACHMENT SS

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SITE ASSESSMENT REPORT

**SHELL OIL PRODUCTS COMPANY STATION
3801 SEPULVEDA BOULEVARD (at Venice Boulevard)
CULVER CITY, CALIFORNIA**

JUNE 15, 1998

SUBMITTED TO:

**SHELL OIL PRODUCTS COMPANY
3611 SOUTH HARBOR BOULEVARD, SUITE 160
SANTA ANA, CALIFORNIA 92704**

PREPARED BY:

**WAYNE PERRY, INC.
8281 COMMONWEALTH AVENUE
BUENA PARK, CALIFORNIA 90621
(714) 826-0352**

WPI PROJECT NO. 96.060

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WARRANTY:

This Site Assessment Report has been prepared by Wayne Perry, Inc. for the exclusive use of Shell Oil Products Company as it pertains to their station located at 3801 Sepulveda Boulevard, Culver City, California. Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by other geologists, hydrogeologists, and engineers practicing in this field. No other warranty, express or implied, is made as to the professional advice in this Site Assessment Report.

REPORT PREPARED BY:

Jane Wahrman
Jane Wahrman
Staff Scientist

Laura Takach
Laura Takach
Senior Scientist

UNDER THE PRIMARY REVIEW AND PROFESSIONAL SUPERVISION OF:

Michael J. Huggins
Michael J. Huggins
California Registered Geologist #049

Adam Leiter
Adam Leiter
Principal Hydrogeologist

June 15, 1998

WPI Project No. 96.060

3801 Sepulveda Boulevard (at Venice Boulevard), Culver City, California

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2.0 BACKGROUND

2.1 SITE DESCRIPTION

The subject site is an operating service station on the south corner of the intersection of Sepulveda and Venice Boulevards in Culver City, California (Figures 1 and 2). The site has five double-walled fiberglass, 12,000-gallon fuel underground storage tanks (USTs; Figure 3). Three USTs are for gasoline, one is for diesel fuel, and one is for methanol. The subject site also includes four dispenser islands, a small sales kiosk, and a small office. Prior to June 1992, there were four fuel USTs at the site, three single-walled fiberglass gasoline USTs on the northwest side of the dispenser islands, and one single-walled fiberglass diesel-fuel UST on the southeast side of the dispensers. Data from Fugro-McClelland (West), Inc. (Fugro, 1992a) indicate that the USTs removed in 1992 were approximately 10 years old.

The surrounding land use in the subject site's vicinity is mixed commercial and residential (Figure 3). Neighboring businesses include an operating Mobil service station on the east corner of the intersection; an operating Chevron service station on the west corner; and a convenience store (a former Phillips 66 service station) on the north corner. The Maurice Joffe Tax Service property borders the site to the southwest, several auto repair shops are to the southwest, and a tire store is to the southeast. The San Diego Freeway (Interstate 405) is approximately 300 feet to the southwest. The City of Santa Monica Charnock Well Field is approximately 2,500 feet to the north-northwest.

2.2 GEOLOGIC AND HYDROGEOLOGIC SETTING

2.2.1 Physiography

The subject site is within the Ballona Gap of the Los Angeles Coastal Plain at an elevation of approximately 60 feet above mean sea level (Figures 1 and 2). The surface topography in the site area is generally flat with a gentle slope to the southeast. A series of low hills, part of the Cheviot Hills, are approximately 1,000 to 1,500 feet northwest and north of the site. Southwest-flowing Ballona Creek, within a concrete channel, is approximately 7,500 feet to the southeast. The Baldwin Hills are approximately 2 miles to the east (Poland, Garrett, and Sinnott, 1959; California Department of Water Resources [CDWR], 1961; and Dibblee, 1991).

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2.2.2 Local Geologic Setting and Structures

The Ballona Gap is a buried Pleistocene valley (referred here as the Ballona Channel), downcut during a Late Pleistocene sea-level low-stand coincident with the last major Pleistocene glaciation, a time of global sea-level lowering that occurred approximately 25,000 years before present. The Ballona Channel was subsequently filled by alluvial sediments of the ancestral Los Angeles River system during Latest Pleistocene and Recent time, after approximately 15,000 years before present. In the site vicinity, the Ballona Channel alluvial fill is approximately 50 to 80 feet thick (Poland, Garrett and Sinnott, 1959; CDWR, 1961; Fisher and Lee, 1992; and Ponti, 1998).

In the subject site vicinity, the Quaternary (Recent and Upper Pleistocene) alluvial sediments unconformably overlie primarily marine sediments of the Upper Pleistocene Lakewood Formation and the Lower Pleistocene San Pedro Formation. Approximately 150 to 250 feet of Pleistocene sediments, primarily of the Lakewood Formation, have been removed by the downcutting of the Ballona Channel in the site vicinity. The northwestern margin of the Ballona Channel, where the Quaternary alluvial sediments pinch out, is approximately 750 feet northwest of the site (Poland, Garrett and Sinnott, 1959; CDWR, 1961; Fisher and Lee, 1992; and Ponti, 1998).

The subject site is in an area of Pleistocene faulting, associated with the Newport-Inglewood Fault trend. The northwest-trending Charnock Fault is approximately 3,000 feet to the southwest and the parallel Overland Avenue Fault is approximately 3,700 feet to the northeast (Figure 1). These faults are the boundaries of the Charnock Subbasin, a graben structure in which the subject site and Charnock Well Field are located. The Coastal Subbasin is southwest of the Charnock Fault and the Crestal Subbasin is northeast of the Overland Avenue. Pleistocene and older sediments in the Charnock Subbasin have been downdropped relative to sediments in the Coastal and Crestal Subbasins. In addition, the offset along the Charnock Fault has been greater than that along the Overland Avenue Fault, so that the Pleistocene sediments in the Charnock Subbasin are slightly tilted to the southwest. Quaternary (Recent to latest Pleistocene) alluvial sediments of the Ballona Channel are apparently not offset by any of the faults (Poland, Garrett and Sinnott, 1959; CDWR, 1961; and Geomatrix Consultants, Inc. [Geomatrix], 1997b).

2.2.3 Site Stratigraphy

The subsurface stratigraphy of the sediments beneath the site is presented in Table 1 and discussed in Section 4. The primary stratigraphic and hydrogeologic units for this report are shown below so that previous assessment activities at the subject site and adjacent sites may be discussed in the proper context. The site-specific stratigraphy was discussed previously in WPI (1998). Additional information is from Poland, Garrett and Sinnott (1959), CDWR (1961), Dibblee (1991), and Geomatrix (1997a, 1997b, and 1998b).

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Generalized Site Stratigraphy and Hydrogeologic Terminology
 (All depths and thicknesses are generalized)

Geologic Unit	Top and Base (Thickness)	Hydrostratigraphic Terms Used Here	Age
Quaternary alluvium of the Ballona Channel	Top: 0 feet Base: 50-70 feet (50-70 feet thick)	(Includes Upper Gravel and Lower Gravel)	Recent to Latest Pleistocene
Undifferentiated Lakewood and San Pedro Formations	Top: 50-70 feet Base: 88-122 feet (30-50 feet thick)	Shallow Unnamed Aquifer	
	Top: 88-122 feet Base: 100-123 feet (1 to 15 feet thick)	Shallow Aquitard; previously referred to by WPI as "Fine- Grained Layer" (equivalent to Geomatrix's "Shallow/Intermediate Aquitard")	Early to Late Pleistocene
San Pedro Formation	Top: 100-123 feet Base: 150-161+ feet (40-55 feet thick)	Upper Silverado Aquifer	
	Top: 150-161+ feet Base: 185 feet (25-35 feet thick)	Silverado Aquitard	
	Top: Approx. 185 feet	Lower Silverado Aquifer	Early Pleistocene

2.2.4 Hydrogeologic Setting

The subject site is within the Charnock Subbasin of the Santa Monica Groundwater Basin. The groundwater basin includes the fault-bounded Coastal, Charnock, and Crestal Subbasins (from southwest to northeast). The Charnock and Overland Avenue Faults have been interpreted to be possible barriers to groundwater flow between the subbasins (Geomatrix, 1997b).

Prior to June 1996, groundwater from the Charnock Subbasin was produced for domestic use from producing wells at the City of Santa Monica Charnock Well Field, approximately 2,500 feet north-northwest of the subject site. Prior to October 1996, groundwater was also produced for domestic use from two producing wells at the Southern California Water Company Charnock Well Field, located approximately 2,800 feet northwest of the subject site. Before abandonment in 1960, the Southern California Water Company also produced groundwater from its Sepulveda Well Field, located approximately 1,400 to 1,500 feet southeast of the subject site (Geomatrix, 1997b).

The first groundwater zone beneath the subject site is the unconfined Shallow Unnamed Aquifer (WPI, 1998). Historical groundwater-monitoring data for the subject site and adjacent Mobil site indicate that prior to October 1996, this groundwater zone was perched, with no more than several feet of saturated thickness. From 1994 through October 1996, groundwater levels in the area of

former Well MW-3 (Figure 4) in the northeastern portion of the site were at 88 to 89 feet below ground surface. During the same time, groundwater levels in former Well MW-5/VE-7 (Figure 4), southwest of the subject site near the intersection of Tuller Avenue and Venice Boulevard, were at approximately 101 feet (corrected for separate-phase hydrocarbons). Refer to the table of historical groundwater gauging and analytical data in Appendix A for additional details.

The Shallow Unnamed Aquifer is separated from the underlying Upper Silverado Aquifer by a thin aquitard, identified herein as the Shallow Aquitard (formerly referred to as the "Fine-Grained Layer," WPI, 1998). Groundwater in the Upper Silverado Aquifer is currently under confined conditions (Section 4.0). Historical groundwater-monitoring data for the subject site and adjacent Mobil site indicate that this groundwater zone may have been unconfined, due to dewatering, at various times when the Charnock Well Field was fully operational.

2.3 SUBJECT SITE HISTORY

2.3.1 Environmental Activities Prior to 1992 UST Removal

2.3.1.1 *Leak Detection Investigation, September 1988*

In September 1988, WPI conducted a Leak Detection Investigation at the subject site. The investigation included the drilling and soil sampling of Borings B-1 through B-6, in the vicinity of the USTs, product piping, and dispenser islands (Figure 3 and Table 2; WPI, 1988). At this time, there were only four fuel USTs at the site (Fugro, 1992a).

Boring B-1 was drilled to 40 feet below ground surface adjacent to a gasoline UST; Borings B-2 and B-6 were drilled to 20 feet adjacent to the USTs; and Borings B-3, B-4, and B-5 were drilled to 10 feet in the vicinity of dispenser islands and product piping runs. Fuel hydrocarbons were detected in only one soil sample (TPH-G at 1 mg/kg) collected at 5 feet from Boring B-3, but BTEX was not detected (Table 3).

2.3.1.2 *Leak Detection Program/Tank Monitoring Program (LDP/TMP) Activities*

Between September 1988 and July 1990, "vadose-zone monitoring wells" were installed at the site to fulfill LDP/TMP requirements of the County of Los Angeles Department of Public Works (WPI, 1990a and 1990b).

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2.3.1.3 Supplemental Site Investigation

In February 1991, WPI conducted a supplemental site investigation that included the drilling of three soil borings (labeled on Figure 3 as B-7a, B-8a, and B-9a) and collection of soil samples for chemical analyses. The borings were drilled adjacent to three of the four dispenser islands. Borings B-7a and B-8a were drilled to approximately 10 feet below ground surface and B-9a was drilled to approximately 30 feet (Table 2). Fuel hydrocarbons (TPH-G and BTEX) were not detected in samples collected from Borings B-7a or B-8a, but were detected at 10 to 25 feet in Boring B-9a (Table 3). TPH-G was detected at 60 to 6,810 mg/kg and benzene was detected at up to 0.3 mg/kg.

2.3.2 UST Removal and Replacement, June 1992

In June 1992, the four 12,000-gallon single-walled fiberglass USTs were removed from the subject site creating separate excavations for the gasoline and the diesel-fuel USTs (Fugro, 1992a). Soil samples collected from beneath the UST inverts and associated piping were analyzed for TPH-G and BTEX (Table 3).

Gasoline-range fuel hydrocarbons were detected in soil beneath the former USTs and dispenser islands (Fugro, 1992a). The highest concentrations were detected beneath (1) the southwest end of the southeasternmost gasoline UST (Sample 2A with TPH-G at 1,987 mg/kg and benzene at 17 mg/kg), and (2) beneath the northwest end of the southwesternmost dispenser island (Sample D-4 with TPH-G at 2,215 mg/kg and benzene at 18 mg/kg; Table 3). Both of these samples were collected within 15 feet of each other.

Following the UST removal, five new 12,000-gallon double-walled fiberglass USTs were installed within the enlarged gasoline tank excavation (Figure 3): three USTs for gasoline, one for diesel fuel, and one for methanol. Product dispensers and piping were also replaced. Underground piping for possible future soil vapor extraction (SVE) remedial activities was also installed. Large-diameter vertical casings were installed between the new USTs to allow for future site assessment drilling adjacent to the USTs (Fugro, 1992b).

Soil not impacted by fuel hydrocarbons was reported as transported to the Rose Hills Class III landfill. Hydrocarbon-impacted soil from the former gasoline UST excavation was backfilled into the former diesel-fuel UST excavation for later remediation by vapor extraction (Fugro, 1992b).

2.3.3 Site Assessment

2.3.3.1 August 1993 Activities

In August 1993, three soil borings were drilled and sampled (Fugro, 1993). One boring was completed as an SVE well (Well VE-3) and the remaining two borings were completed as triple-nested SVE/groundwater monitoring wells (Wells MW-1/VE-1 and MW-2/VE-2; Table 2). Groundwater was found at approximately 98 to 99 feet below ground surface. As a result, the well screens were set from 70 to 110 feet below ground surface. Refer to Figure 4 for the location of boring and wells installed by Fugro-McClelland West.

Fuel hydrocarbons, with TPH-G concentrations exceeding 1,000 mg/kg, were detected in soil from approximately 25 feet below ground surface to groundwater (Table 3). Separate-phase hydrocarbons (SPH) were detected on groundwater in Well MW-2 (2.74 feet thick) and dissolved-phase hydrocarbons were detected in groundwater samples collected from Well MW-1 (Appendix A).

2.3.3.2 April 1994 Activities

In April 1994, additional assessment activities were performed at the subject site and the adjacent property to the southwest (Fugro, 1994a). Well MW-3 was completed as a groundwater monitoring well. Wells MW-4/VE-6 and MW-5/VE-7 were completed as double-nested SVE/groundwater wells (one SVE well and one groundwater well in the same borehole). Wells VE-4 and VE-5 were completed as double-nested SVE wells with one well screened into groundwater. Well VE-8 was completed as a triple-nested SVE wells with one well screened into groundwater. Wells VE-9A and VE-9B were completed as adjacent SVE wells with Well VE-9A completed into groundwater. The screen intervals for the wells that were completed into groundwater were as follows:

Well	Screen Interval (feet below ground surface)	Well	Screen Interval (feet below ground surface)
MW-1/VE-1	70-110	MW-5/VE-7	80-120
MW-2/VE-2	70-110	VE-4	74-94
MW-3	75-100	VE-5	80-110
MW-4/VE-6	79-119	VE-8	85-105
		VE-9A	74-94

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The maximum hydrocarbon concentrations in soil were detected at approximately 100 feet below ground surface, close to the top of the groundwater-saturated zone in Wells MW-5/VE-7 (TPH-G at

7,514 mg/kg and benzene at 154.321 mg/kg) and VE-8 (TPH-G at 10,169 mg/kg and benzene at 46.633 mg/kg; Table 3; Fugro, 1994a). SPH was measured in Wells VE-2/MW-2 and MW-5/VE-7. Dissolved hydrocarbons were detected in groundwater samples collected from the remaining on-site and off-site groundwater wells, except Well VE-8, which could not be sampled due to an obstruction. Refer to the table of historical groundwater gauging and analytical data in Appendix A for SPH data and results of hydrocarbon analyses.

2.3.4 Site Remediation

2.3.4.1 Separate-Phase Hydrocarbon Removal

From September 1993 through October 1996, WPI conducted manual SPH recovery from wells. During this period, SPH was detected in Wells MW-1/VE-1, MW-2/VE-2, MW-4/VE-6, MW-5/VE-7, and VE-5.

In August 1995, Fugro placed absorbent wicks in wells with SPH. In May 1996, an automated SPH recovery system installed in Wells MW-4/VE-6 and MW-5/VE-7 began operation. In September 1996, Fugro installed passive SPH skimmers in Wells MW-2 and VE-5.

SPH recovery operations ended when SPH disappeared from on- and off-site wells after October 1996. Approximately 1,370 gallons of SPH was removed through October 1996.

2.3.4.2 Soil Vapor Extraction

In October 1994, Fugro performed SVE testing using the nested SVE wells. The results of the tests indicated that SVE was feasible for remediation of fuel hydrocarbons from the sandy soils. Fugro estimated that the horizontal radii of SVE influence were at least 20 feet for soil at 20 to 40 feet below ground surface, 50 feet for soil at 40 to 60 feet, and 75 feet for soil at 60 to 110 feet (Fugro, 1994b).

In August 1995, SVE operations commenced using various internal combustion engines (VR Systems Models V-3 and V-4), operated under South Coast Air Quality Management District permits. Alternating/variable combinations of SVE wells were used to increase recovery efficiency (Fugro West, 1996a and 1996b). In May 1997, WPI replaced the internal combustion system with an Airex C55-100 catalytic oxidation unit, which operated until August 1997. Through August 1997, an estimated 14,365 gallons of gasoline-equivalent fuel hydrocarbons had been removed by SVE activities (based on field measurements using hand-held flame-ionization detectors).

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2.3.5 Aquifer Testing

WPI performed aquifer testing in December 1997 and January 1998 (WPI, 1998). In December 1997, a constant-rate aquifer test was performed on the Shallow Unnamed Aquifer by pumping Well MW-11S and monitoring water level responses in the remaining on- and off-site monitoring wells. In January 1998, a constant-rate aquifer test was performed on the Upper Silverado Aquifer by pumping Well MW-11M and monitoring water level responses in the remaining on- and off-site monitoring wells. For each of the two aquifers, a series of step-drawdown/recovery tests preceded the constant-rate/recovery tests. The step tests were conducted to define the appropriate maximum pumping rates for the constant-rate tests. The constant-rate tests were conducted to determine aquifer-specific properties, including transmissivity and storativity, and to evaluate the types of aquifers beneath the site; e.g., unconfined, confined or leaky confined.

Results of analyses conducted on the Shallow Unnamed Aquifer support its treatment as an unconfined aquifer system. The range in this system's calculated storativity values (0.336 to 1.48×10^{-1}) characterizes it as a water-table aquifer system. This determination is consistent with information about the aquifer derived from the site assessment, including stratigraphic information and groundwater level data from well development and long-term monitoring. Results of analyses conducted on the Upper Silverado Aquifer support its treatment as a leaky confined aquifer system. The range in this system's calculated storativity values (3.33×10^{-2} to 2.60×10^{-4}) characterizes it as a confined aquifer system with contribution from external storage. This determination is consistent with information about the aquifer derived from the site assessment, including stratigraphic information and groundwater level data from well development and long-term monitoring.

Results gathered during site assessment work demonstrated the Shallow Unnamed Aquifer as having a higher abundance of coarse grained sediments. This finding was supported by the results gathered during the aquifer testing in regard to the individual aquifer's transmissivity values. Transmissivity values for the Shallow Unnamed Aquifer ranged between 14,000 to 38,000 gallons/day/ft (g/d/ft.) while the Upper Silverado Aquifer's transmissivity had a range of 11,000 to 24,000 g/d/ft.

A groundwater treatment system for the aquifer test was installed along Tuller Avenue, southwest of the subject site. Pumped groundwater was temporarily stored in a 21,000-gallon holding tank, passed through three 2,000-pound canisters of granular activated carbon, which adsorbed volatile organic compounds such as BTEX. The water was then routed through an advanced oxidation/peroxidation (AOP) system designed to destroy dissolved MTBE by oxidation using ultraviolet light and hydrogen peroxide. After this, the water was again passed through two 2,000-pound granular activated carbon canisters as a final polish. The treated effluent was then discharged to the storm drain system under a National Pollutant Discharge Elimination System (NPDES) permit number CAG834001.

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The results of the aquifer testing program, including hydraulic values for the Shallow Unnamed Aquifer and the Upper Silverado Aquifer, are described in detail in the Aquifer Testing Report, 3801 Sepulveda Boulevard, Culver City, California dated April 30, 1998, and submitted to the USEPA and the LARWQCB (WPI, 1998).

2.4 ENVIRONMENTAL HISTORY OF NEARBY SITES

2.4.1 Chevron Station 9-0561, 3775 South Sepulveda Boulevard (at Venice Boulevard), Los Angeles, California

Information regarding environmental assessment activities at this site are summarized by Bechtel Environmental, Inc. (Bechtel, 1997) and Komex-H2O Science (Komex, 1997). The site is an operating Chevron service station with three 10,000-gallon double-walled fiberglass, gasoline USTs; one 1,000-gallon double-walled fiberglass, used-oil UST; three dispenser islands; and a station building (Figure 3). In August 1992 and November 1995, fuel hydrocarbons were detected in soil beneath the dispenser islands (TPH-G at 2,600 mg/kg and benzene at 44 mg/kg; southernmost dispenser). In November 1995, hydrocarbon-impacted soil from beneath the southernmost dispenser island was excavated to a depth of approximately 4.5 feet below ground surface and removed.

In March and April 1997, Bechtel installed four groundwater monitoring wells (MW-1 through MW-4) into the Shallow Unnamed Aquifer. The top of the Shallow Aquitard was found at 84.5 to 88.5 feet below ground surface. The wells were completed to total depths of 85 to 89 feet below ground surface, and have 15-foot-long screen intervals. In April 1997, groundwater levels were at 83 to 84 feet below ground surface. By April 1998, groundwater levels had risen to 70 to 71 feet below ground surface. The direction of groundwater flow at this site has generally been to the west and west-southwest, toward the San Diego Freeway (Interstate 405).

MTBE was detected in soil from the following borings/wells:

Well	MTBE Concentration	Depth Range	
MW-2	0.006 to 0.7 mg/kg	21-36 feet below ground surface	
MW-3	0.0071 to 0.62 mg/kg	21-32.5 feet	
MW-4	0.0053 mg/kg	41.5 feet	00347

Groundwater samples were collected from Wells MW-1 through MW-4 on February 7, July 9, September 15, and October 27, 1997 and February 9, and April 22, 1998. No MTBE concentrations

4.3.3 Shallow Unnamed Aquifer

4.3.3.1 *Groundwater Levels*

Historical groundwater-level data for the subject site wells are presented in Appendix A.

Site assessment information obtained by Fugro in 1993 and 1994 indicates that, prior to shut down of the Charnock Well Fields, groundwater levels for the Shallow Unnamed Aquifer were much lower than after the shutdown. From 1994 through early 1997, groundwater levels in Wells VE-4 and VE-9A, (wells completed solely within Shallow Unnamed Aquifer), were at approximately -28 to -29 feet relative to mean sea level or 89 to 90 feet below ground surface (Graph 4). After March 1997, approximately 9 months after the City of Santa Monica Charnock Well Field was shut down, groundwater levels in Wells VE-4 and VE-9A, began rising at approximately 1.4 to 1.8 feet per month (Graphs 4 and 5). Similar rates of groundwater recovery were also observed in Wells MW-7S, MW-12S, MW-13S, MW-14S and MW-15S completed in the Shallow Unnamed Aquifer (Graphs 4 and 5). By the end of November 1997, the rate of groundwater rise was approximately 1 foot per month (Graph 5). Groundwater levels rose 0.8 to 1.2 feet per month from January through May 22, 1998 (Graph 5). Between June 1996 and June 1998, groundwater levels in the Shallow Unnamed Aquifer have risen approximately 19 feet.

4.3.3.2 *Groundwater Flow and Gradient*

Groundwater elevation contour maps for the Shallow Unnamed Aquifer are presented for October 28, 1997 (Figure 17), February 25 (Figure 18) and April 20, 1998 (Figure 19). These maps generally show the dominant direction of groundwater flow for this zone beneath the subject site has been to the southwest, coincident with the structural dip of the Shallow Aquitard at the base of this aquifer. However, in February and April 1998, the direction of groundwater flow in the area of Wells MW-17S, MW-18S, and MW-19S, southwest of the San Diego Freeway (Interstate 405), has been southeasterly. The groundwater gradient, as measured from Well MW-12S to Well MW-15S, and from Well MW-15S to Well MW-17S, on April 20, 1998, was 0.00247 and 0.00152 feet per foot, respectively.

4.3.4 Upper Silverado Aquifer

4.3.4.1 *Groundwater Levels*

Prior to the shut down of the Charnock Well Fields, groundwater levels in former Wells MW-1, MW-2, MW-4, MW-5, and VE-5, which were completed into the top portion of the Upper Silverado Aquifer, were at approximately -45 feet below mean sea level (Graphs 6 and 7). Immediately following the well field shutdown, groundwater levels in these wells began rising at 1.5 to 2 feet per month until the wells were destroyed (Graphs 5 and 6).

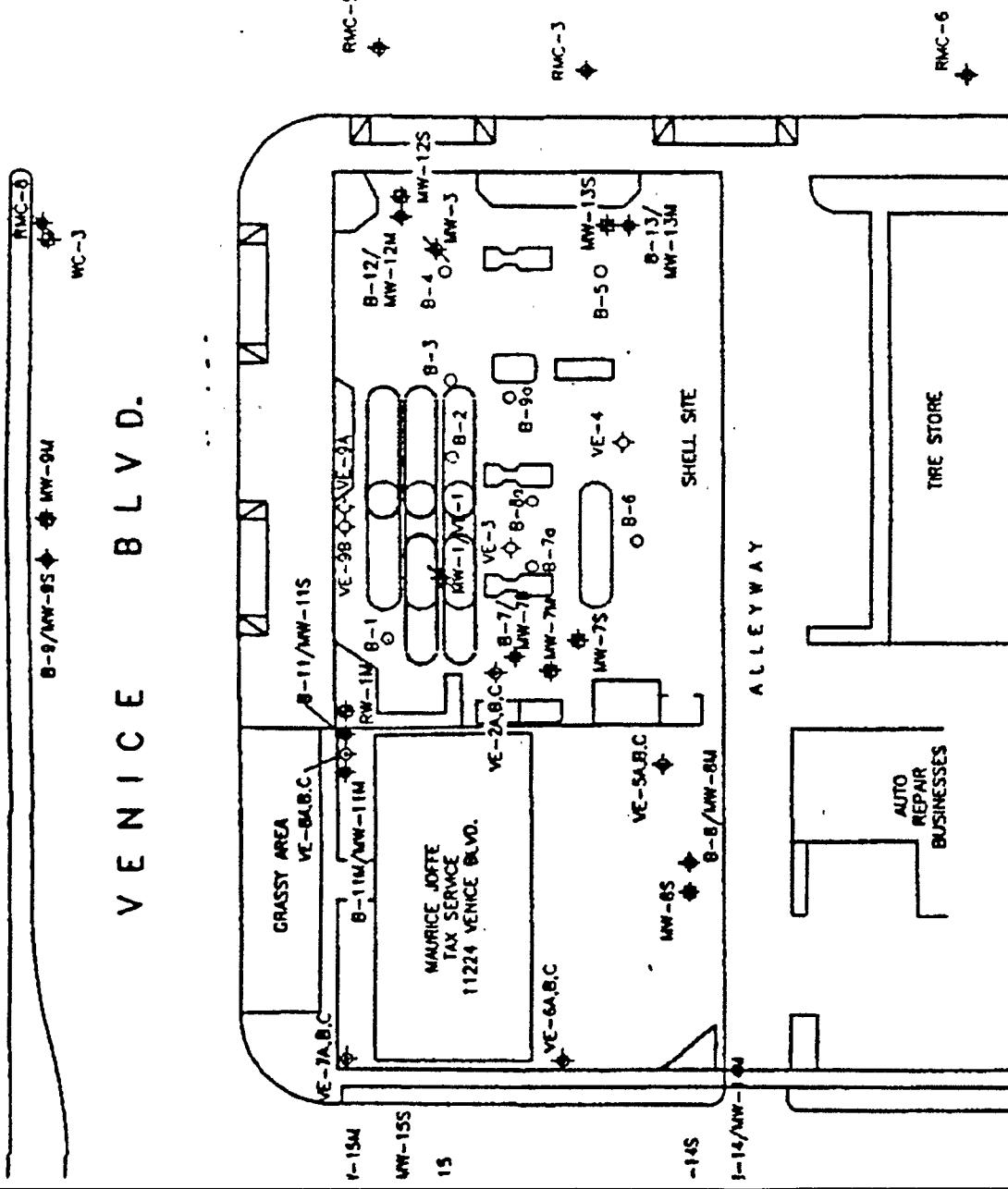
Historical groundwater elevation data for former Well MW-1/VE-1 indicate that the Upper Silverado Aquifer may not have always been confined during periods of pumping at the Charnock Well Fields. In November 1995 through January 1996, a peak groundwater production period for the City of Santa Monica Charnock Well Field (City data from January 1994 through December 1996), groundwater levels dropped below the base of the Shallow Aquitard (Graph 7). A review of historical data for Mobil Wells RMC-1, RMC-2 and RMC-8 indicates a similar pattern for these wells (Section 2.4.2).

In WPI's assessment wells completed within the Upper Silverado Aquifer, groundwater levels have been rising since May 1997 at approximately 1 foot per month (Graphs 5, 6, and 8). From June through August 1997, the rebound rate was approximately 1.3 feet per month; however, since October 1997, the rate has fluctuated from 0.9 to 1.1 foot per month. Between June 1996 and June 1998, groundwater levels in the Upper Silverado Aquifer have risen approximately 33 feet.

4.3.4.2 *Groundwater Flow and Gradient*

Groundwater elevation contour maps for the Upper Silverado Aquifer are presented for October 27 and 27, 1997 (Figure 20), February 25 (Figure 21) and April 20, 1998 (Figure 22). As shown in these maps, the general direction of groundwater flow in the Upper Silverado Aquifer in the site area has been to the north and northeast, almost opposite the direction for the Shallow Unnamed Aquifer. The groundwater gradient, as measured from Well MW-17M to Well MW-12M, on April 20, 1998, was 0.000463 feet per foot.

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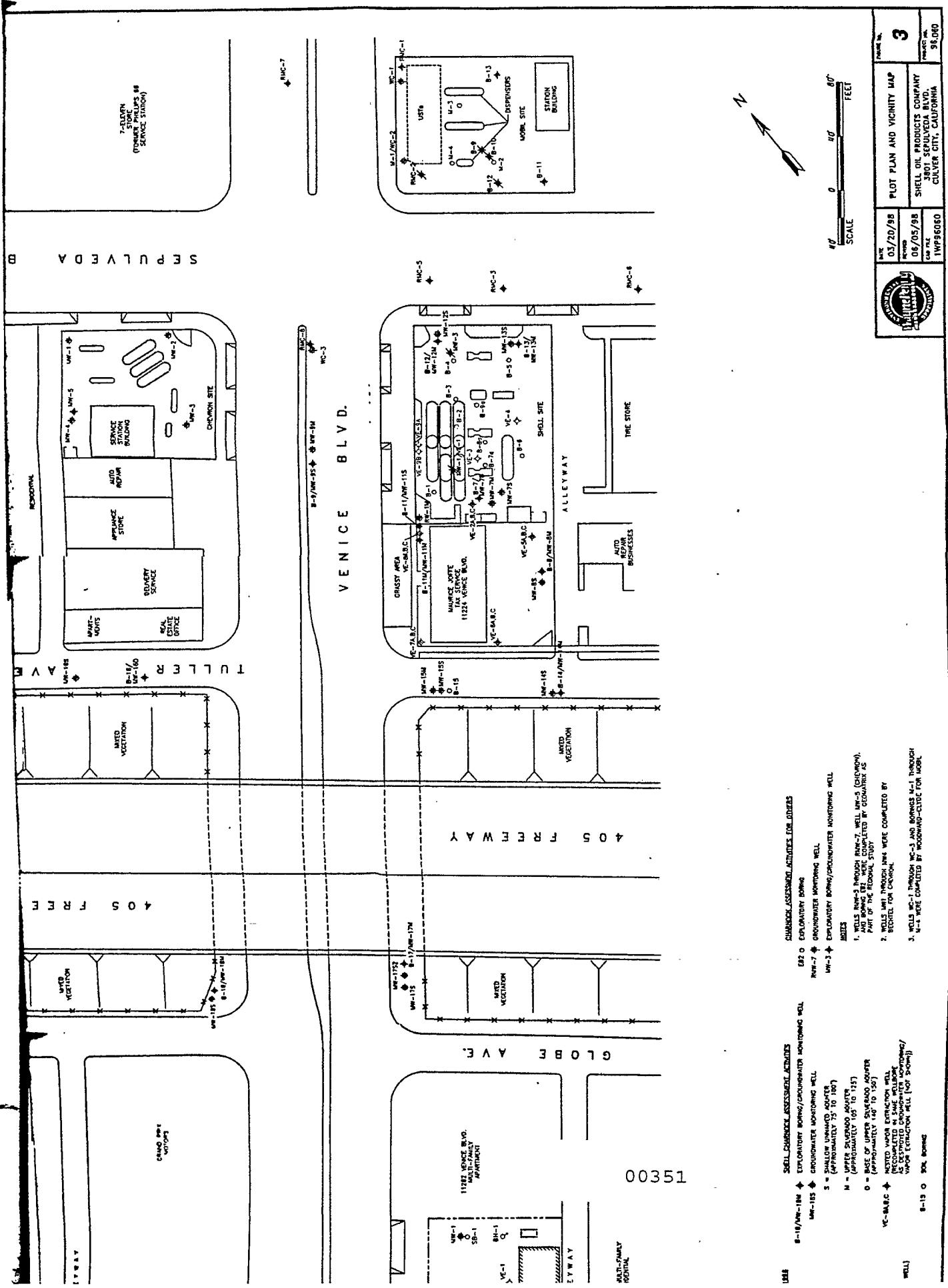


Table 2. Boring/Well Construction Information, 1988-1994

Well or Boring	Type	Date Installed	Boring Elevation (ft MSL)	Total Depth (ft bgs)	Well Total Depth (ft bgs)	Well Screen (ft bgs)	Filter Pack Type
B-1	Boring	9/1/88	—	40	—	—	—
B-2	Boring	9/1/88	—	20	—	—	—
B-3	Boring	9/1/88	—	10	—	—	—
B-4	Boring	9/1/88	—	10	—	—	—
B-5	Boring	9/1/88	—	10	—	—	—
B-6	Boring	9/1/88	—	20	—	—	—
MW-1/VE-1	Triple-Nested Groundwater Monitoring Well/Vapor Extraction Well	8/23/93	61.16	110.5	35	20-35	#IC
MW-2/VE-2	Triple-Nested Groundwater Monitoring Well/Vapor Extraction Well	8/23/93	61.66	110	55	40-55	#IC
VE-3	Vapor Extraction Well	8/23/93	61.36	46	30	70-110	#IC
MW-3	Groundwater Monitoring Well	4/27/94	60.72	101.5	100	25-40	#IC
VE-4	Double-Nested Vapor Extraction Well	4/25/94	61.00	96.5	70	45-60	#IC
VE-5	Double-Nested Vapor Extraction Well	4/19/94	61.97	110	95	75-95	#IC
MW-4/VE-6	Double-Nested Groundwater Monitoring Well/ Vapor Extraction Well	4/20/94	61.03	120	65	55-65	#IC
MW-5/VE-7	Double-Nested Groundwater Monitoring Well/Vapor Extraction Well	4/21/94	61.12	120	62	52-62 80-120	#IC
VE-8	Triple-Nested Vapor Extraction Well	4/22/94	60.92	105	55	35-55	#IC
VE-9A	Vapor Extraction Well	4/26/94	60.92	96.5	93	73-93	#IC
VE-9B	Vapor Extraction Well	4/26/94	60.92	70	70	50-70	#IC

Notes:

1. Boring elevations were based on a Psomas survey; all depths were relative to boring elevations (not well casing elevations).
2. ft MSL = feet relative to mean sea level.
3. ft bgs = feet below ground surface.
4. All borings were drilled using hollow stem augers.

Table 3. Soil Analytical Results, 1988 to 1994

Sample ID	Sample Date	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Toluene Xylenes (mg/kg)	TPH-C (mg/kg)
B-1	9/1/88							
B-1 @ 40'	40	8020/8015	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)
B-2	9/1/88	20	8020/8015	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)
B-2 @ 20'								
B-3	9/1/88							
B-3 @ 5'	5	8020/8015	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	1
B-3 @ 10'	10	8020/8015	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)
B-4	9/1/88							
B-4 @ 5'	5	8020/8015	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)
B-4 @ 10'	10	8020/8015	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)
B-5	9/1/88							
B-5 @ 5'	5	8020/8015	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)
B-5 @ 10'	10	8020/8015	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)
B-6	9/1/88							
B-6 @ 20'	20	8020/8015	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)
Tank Zone Samples 6/92								
1A	-	8020	NA	ND (0.005)	0.20	0.13	0.60	NA
1B	-	8020	NA	ND (0.005)	0.16	ND (0.005)	0.33	NA
2A	-	8020/8015	NA	17	445	122	1040	1987
2B	-	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.5)
3A	-	8020/8015	NA	ND (0.005)	0.17	ND (0.005)	0.46	2.3
3B	-	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	0.6
4A	-	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	0.24	1.7

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Table 3. Soil Analytical Results, 1988 to 1994

Sample ID	Sample Date	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
4B	-	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	0.24	ND (0.5)
D-1	-	8020/8015	NA	0.05	2.1	0.2	7.1	30.6
D-2	-	8020/8015	NA	0.05	1.4	0.08	4.3	27.4
D-3	-	8020/8015	NA	0.05	0.05	ND (0.005)	0.04	ND (0.5)
D-4	-	8020/8015	NA	18	73	69	930.7	2212.5
D-5	-	8020/8015	NA	0.06	0.06	0.02	0.08	ND (0.5)
L-1	-	8020/8015	NA	0.06	0.04	ND (0.005)	0.04	ND (0.5)
<hr/>								
MW-1	8/23/93							
MW-1 @ 25'	25	8020/8015	NA	224.293	1432	278.877	1754	12851
MW-1 @ 30'	30	8020/8015	NA	15.431	167.560	36.970	256.861	1878
MW-1 @ 35'	35	8020/8015	NA	246.427	1267	220.338	1434	11131
MW-1 @ 40'	40	8020/8015	NA	170.438	847.768	165.436	1290	9520
MW-1 @ 45'	45	8020/8015	NA	8.783	123.907	43.000	282.642	1851
MW-1 @ 50'	50	8020/8015	NA	7.069	97.353	34.120	235.539	1392
MW-1 @ 55'	55	8020/8015	NA	22.516	326.476	80.217	477.574	3496
MW-1 @ 60'	60	8020/8015	NA	14.322	187.602	47.200	290.699	2021
MW-1 @ 65'	65	8020/8015	NA	57.417	414.158	84.347	580.494	4126
MW-1 @ 75'	75	8020/8015	NA	18.040	221.801	62.241	365.619	2725
MW-1 @ 80'	80	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)
MW-1 @ 85'	85	8020/8015	NA	ND (0.005)	0.173	ND (0.005)	ND (0.015)	ND (10)
MW-1 @ 90'	90	8020/8015	NA	ND (0.005)	0.575	0.299	1.624	24.9
MW-1 @ 95'	95	8020/8015	NA	ND (0.005)	0.235	0.288	1.157	ND (10)
MW-1 @ 100'	100	8020/8015	NA	0.175	0.110	0.302	1.670	ND (10)
<hr/>								
MW-2	8/23/93							
MW-2 @ 5'	5	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)
MW-2 @ 10'	10	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)
MW-2 @ 15'	15	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)
MW-2 @ 20'	20	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)
MW-2 @ 25'	25	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)

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Table 3. Soil Analytical Results, 1988 to 1994

Sample ID	Sample Name	Sample Depth (ee Jgs)	TPM Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
MW-2 @ 30'		30	8020/8015	NA	0.095	ND (0.005)	ND (0.005)	0.183	ND (10)
MW-2 @ 35'		35	8020/8015	NA	0.105	ND (0.005)	ND (0.005)	0.194	ND (10)
MW-2 @ 40'		40	8020/8015	NA	ND (0.005)	ND (0.005)	0.074	0.294	ND (10)
MW-2 @ 45'		45	8020/8015	NA	0.121	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)
MW-2 @ 50'		50	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)
MW-2 @ 55'		55	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)
MW-2 @ 60'		60	8020/8015	NA	ND (0.005)	0.181	ND (0.005)	0.314	ND (10)
MW-2 @ 65'		65	8020/8015	NA	0.061	0.168	0.801	0.557	20
MW-2 @ 70'		70	8020/8015	NA	146.997	941.525	186.151	1051	8356
MW-2 @ 75'		75	8020/8015	NA	87.682	554.591	107.931	641.420	5091
MW-2 @ 80'		80	8020/8015	NA	24.957	207.714	44.223	258.153	2027
MW-2 @ 85'		85	8020/8015	NA	67.367	462.990	94.941	573.698	4316
MW-2 @ 90'		90	8020/8015	NA	139.584	879.241	181.652	1099	9660
MW-2 @ 95'		95	8020/8015	NA	52.652	257.102	72.857	593.229	4951
MW-2 @ 105'		105	8020/8015	NA	1.898	6.915	1.385	8.538	71
VE-3	8/23/93								
VE-3 @ 5'		5	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)
VE-3 @ 10'		10	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)
VE-3 @ 15'		15	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)
VE-3 @ 20'		20	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (10)
VE-3 @ 25'		25	8020/8015	NA	135.346	1857	575.935	3905	20576
VE-3 @ 30'		30	8020/8015	NA	8.073	102.014	34.432	201.949	1377
VE-3 @ 35'		35	8020/8015	NA	7.691	31.903	5.421	54.401	430
VE-3 @ 40'		40	8020/8015	NA	5.336	17.360	3.653	24.972	599
VE-3 @ 45'		45	8020/8015	NA	ND (0.005)	0.071	ND (0.005)	0.220	ND (10)
VE-4	4/25/94								
VE-4 @ 50		50	8020/8015	NA	0.009	0.007	ND (0.005)	ND (0.015)	ND (10)
VE-4 @ 55		55	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-4 @ 60		60	8020/8015	NA	0.017	0.021	ND (0.005)	0.020	ND (10)

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Table 3. Soil Analytical Results, 1988 to 1994

Sample ID	Sample Date	Sample Depth (feet bgs)	DIA Method	MIBP (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
VE-4 @ 65'	65	8020/8015	NA	0.007	0.012	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-4 @ 70'	70	8020/8015	NA	ND (0.003)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-4 @ 75'	75	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-4 @ 80'	80	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-4 @ 85'	85	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-4 @ 90'	90	8020/8015	NA	0.069	0.967	0.203	1.521	ND (10)	
VE-5 4/19/94									
VE-5 @ 55'	55	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-5 @ 60'	60	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-5 @ 65'	65	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-5 @ 70'	70	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-5 @ 75'	75	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-5 @ 80'	80	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-5 @ 85'	85	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-5 @ 90'	90	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-5 @ 95'	95	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-3 4/27/94									
MW-3 @ 55'	55	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-3 @ 60'	60	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-3 @ 65'	65	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-3 @ 70'	70	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-3 @ 75'	75	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-3 @ 80'	80	8020/8015	NA	0.018	0.033	0.006	0.090	ND (0.015)	ND (10)
MW-3 @ 85'	85	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-3 @ 90'	90	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-3 @ 100'	100	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-4/VE-6 4/20/94	55	8020/8015	NA	0.019	0.024	0.009	0.067	ND (10)	

Table 3. Soil Analytical Results, 1988 to 1994

Sample ID	Sample Date	Sample Depth (feet bgs)	EPA Method	TMB (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
MW-4@ 60'	60	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-4@ 65'	65	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-4@ 70'	70	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-4@ 75'	75	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-4@ 80'	80	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-4@ 85'	85	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-4@ 90'	90	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-5/VE-7 4/21/94									
MW-5 @ 50'	50	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-5 @ 55'	55	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-5 @ 60'	60	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-5 @ 65'	65	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-5 @ 70'	70	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-5 @ 75'	75	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-5 @ 80'	80	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-5 @ 85'	85	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-5 @ 90'	90	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-5 @ 95'	95	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
MW-5 @ 100'	100	8020/8015	NA	154.321	515.818	48.997	260.332	7514	
VE-8 4/22/94									
VE-8 @ 30'	30	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-8 @ 35'	35	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-8 @ 40'	40	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-8 @ 45'	45	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-8 @ 50'	50	8020/8015	NA	0.098	0.169	0.027	0.165	0.165	ND (10)
VE-8 @ 55'	55	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-8 @ 60'	60	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-8 @ 65'	65	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)
VE-8 @ 70'	70	8020/8015	NA	0.012	0.028	ND (0.005)	ND (0.015)	ND (0.015)	ND (10)

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Table 3. Soil Analytical Results, 1988 to 1994

Sample ID	Sample Location	Sample Date	PA/NI Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
VE-8 @ 75'		75	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)
VE-8 @ 80'		80	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)
VE-8 @ 85'		85	8020/8015	NA	ND (0.005)	0.013	ND (0.005)	ND (0.005)	ND (0.015)
VE-8 @ 90'		90	8020/8015	NA	0.008	0.016	ND (0.005)	ND (0.005)	ND (0.015)
VE-8 @ 95'		95	8020/8015	NA	0.010	0.183	0.045	0.357	ND (0.0)
VE-8 @ 100'		100	8020/8015	NA	46.633	725.433	261.160	1531	10169
VE-9A	4/26/94								
VE-9A @ 25		25	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)
VE-9A @ 30		30	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)
VE-9A @ 35		35	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)
VE-9A @ 40		40	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)
VE-9A @ 45		45	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)
VE-9A @ 50		50	8020/8015	NA	0.006	0.021	ND (0.005)	ND (0.005)	ND (0.015)
VE-9A @ 55		55	8020/8015	NA	ND (0.005)	0.012	ND (0.005)	ND (0.005)	ND (0.015)
VE-9A @ 60		60	8020/8015	NA	0.043	0.600	0.310	1.276	11
VE-9A @ 65		65	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)
VE-9A @ 70		70	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)
VE-9A @ 75		75	8020/8015	NA	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.015)
VE-9A @ 80		80	8020/8015	NA	0.211	0.469	0.077	0.526	ND (0.0)
VE-9A @ 85		85	8020/8015	NA	0.317	0.483	0.040	0.268	ND (0.0)
VE-9A @ 90		90	8020/8015	NA	0.018	0.020	0.014	0.077	ND (0.0)

Notes:

1. TPH-G: total petroleum hydrocarbons as gasoline
2. MTBE: methyl tertiary butyl ether
3. bgs: below ground surface
4. mg/kg: milligrams per kilograms
5. NA: not analyzed
6. ND: not detected (detection limit)

Table 7. Shallow Aquitard Data, Shell, Chevron, and Mobil Sites

Wells	Depth to Top of Shallow Aquitard (feet bgs)	Approximate Elevation of Top of Shallow Aquitard (feet relative to MSL)	Thickness of Shallow Aquitard (feet)
Current Shell Wells			
MW-7M	101.5	-40.2	4.8
MW-8M	103.5	-42	4.75
MW-9M	90*	-30.5	13
MW-11M	102	-41.3	6.25
MW-12M	87.5*	-27	13.75
MW-13M	88*	-27.9	14.65
MW-14M	105	-44.8	4.85
MW-15M	105.5	-45	6.5
MW-16D	103	-43.9	3.1
MW-16M	103	-43.6	3
MW-16S	102.7	-43.6	3.8
MW-17M	111	-49.8	3.5
MW-18M	111	-49.9	3.3
MW-19M	121	-54.4	2
Geomatrix Data			
Well MW5 (Chevron)	92*	-25.25	15
Boring EB2 (Tuller)	103	-43.5	3.5
Abandoned Shell Wells			
MW-1	100.5	-39.3	4.5+
MW-2	102	-40.5	3.5+
MW-3	87.75*	-27.05	10.25+
MW-4	105	-44	4+
MW-5	105	-44	4+
VE-5	103	-41.5	1+
Abandoned . Mobil Wells			
RMC-1	82*	-22.5	16
RMC-2	84*	-24	15.5
RMC-8	85*	-25.5	15
B-10	84*	-24	14

Notes: bgs below ground surface

MSL Mean sea level (NGVD 1929)

* The Shallow Aquitard at these locations consists of two distinct clayey/silty layers (top and lower); the top layer is used here.

Table 10. Results of Organic Chemical Analyses of Soil Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
B-7/MW-7D									
B7-S1-9	3/19/97	9	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S2-16	3/19/97	16	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S3-20	3/19/97	20	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S4-26	3/19/97	26	8020A/8015M	4.6*	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S5-31	3/19/97	31	8020A/8015M	7.3*	0.0046 J	<MDL (0.003)	<MDL (0.002)	0.011 J	0.089 J
B7-S6-36	3/19/97	36	8020A/8015M	0.0237	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S7-41	3/19/97	41	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S8-46	3/20/97	46	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S9-51	3/20/97	51	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S10-56	3/20/97	56	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S11-62	3/20/97	62	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S12-71.5	3/20/97	71.5	8020A/8015M	<MDL (5)	<MDL (3)	<MDL (2)	<MDL (0.5)	4800	140
B7-S13-77	3/21/97	77	8020A/8015M	<MDL (0.5)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)		
B7-S14-80.5	3/21/97	80.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)		
B7-S15-85	3/21/97	85	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)		
B7-S16-89.75	3/24/97	89.75	8020A/8015M	<MDL(0.05)	<MDL(0.03)	<MDL(0.02)	0.054 J		2.6 J
B7-S17-92	3/24/97	92	8020A/8015M	<MDL (3)	<MDL (2)	3.9	58	680	
B7-S18-97.25	3/24/97	97.25	8020A/8015M	<MDL (5)	<MDL (3)	9.4	26	200	1500
B7-S19-100.25	3/25/97	100.25	8020A/8015M	<MDL (1.5)	17	650	710	7700	87000
B7-S20-101.5	3/25/97	101.5	8020A/8015M	<MDL (5)	<MDL (3)	29	28	160	1200
B7-S21-106.25	3/26/97	106.25	8020A/8015M	<MDL (0.01)	<MDL (0.006)	0.051	0.065	0.60	7.4
B7-S22-112.75	3/27/97	112.75	8020A/8015M	0.024	0.0044 J	0.014	0.0031 J	0.019 J	0.10 J
B7-S23-115.25	3/27/97	115.25	8020A/8015M	0.34	0.19	7.4*	1.2	17*	170*
B7-S24-124	3/28/97	124	8020A/8015M	0.010	<MDL (0.006)	0.067	0.056	0.36	3.8
B7-S25-134.5	3/31/97	134.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S26-140.75	4/1/97	140.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	

Table 10. Results of Organic Chemical Analyses of Soil Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
B7-S27-150.75	4/2/97	150.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S28-154.5	4/2/97	154.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B7-S29-160.5	4/3/97	160.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B-8/MW-8M									
B8-S1-79.75	7/7/97	79.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B8-S2-84.75	7/7/97	84.75	8020A/8015M	0.18	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B8-S3-88.75	7/7/97	88.75	8020A/8015M	0.48	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B8-S4-90	7/7/97	90	8020A/8015M	0.12	0.034	0.066	0.046 J	0.031	0.24 J
B8-S5-96	7/7/97	96	8020A/8015M	0.18	0.083	0.22	0.020	0.13	0.90
B8-S6-110.5	7/9/97	110.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B8-S7-115.5	7/9/97	115.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B8-S8-122	7/10/97	122	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B8-S9-126.25	7/10/97	126.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B8-S10-134.25	7/14/97	134.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B8-S11-140.25	7/14/97	140.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B-9/MW-9S									
B9S-S1-10.5	12/7/97	10.5	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	0.050 J	
B9S-S2-21	12/7/97	21	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)	
B9S-S3-31	12/8/97	31	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)	
B9S-S4-41	12/8/97	41	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)	
B9S-S5-56	12/8/97	56	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)	
B9S-S6-61	12/8/97	61	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)	
B9S-S7-70.5	12/9/97	70.5	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)	
B9S-S8-74.25	12/9/97	74.25	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)	
B9S-S9-80	12/9/97	80	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)	

Table 10. Results of Organic Chemical Analyses of Soil Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
B9S-S10-85.5	12/10/97	85.5	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.4)	<MDL (0.4)
B9S-S11-90	12/17/97	90	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.4)	<MDL (0.4)
B9S-S12-94.25	12/17/97	94.25	8020A/8015M	0.0058	0.0010 J	0.0038 J	MDL (0.001)	<MDL (0.005)	<MDL (0.04)
B9S-S14-105.5	12/18/97	105.5	8020A/8015M	0.75	MDL (0.001)	MDL (0.001)	MDL (0.001)	0.0059 J	<MDL (0.04)
B9S-S15-110.75	12/18/97	110.75	8020A/8015M	0.57	0.0020 J	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)
B9S-S16-115.5	12/18/97	115.5	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)
B9S-S17-120.7	12/19/97	120.7	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)
B9S-S18-125.5	12/19/97	125.5	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)
B9S-S19-130.75	12/19/97	130.75	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)
B9S-S20-135.75	12/20/97	135.75	8020A/8015M	<MDL (0.005)	MDL (0.001)	MDL (0.001)	MDL (0.001)	<MDL (0.005)	<MDL (0.04)
B-11/MW-11S									
B11-S1-80.75	7/24/97	80.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B11-S2-85.5	7/24/97	85.5	8020A/8015M	0.040	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B11-S3-92.75	7/25/97	92.75	8020A/8015M	1.1	0.033	0.22	0.093	0.69	8.9
B11-S4-94.75	7/25/97	94.75	8020A/8015M	1.4	0.054	0.35	0.10	0.84	5.6
B11-S5-99.75	7/28/97	99.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	0.0061	0.0046 J	0.020	1.0
B-11M/MW-11M									
B11M-S6-109.75	7/31/97	110	8020A/8015M	0.98	<MDL (0.003)	<MDL (0.003)	0.014	<MDL (0.005)	0.040 J
B11M-S7-115	7/31/97	115	8020A/8015M	0.044	0.017	<MDL (0.003)	0.0026 J	<MDL (0.005)	<MDL (0.04)
B11M-S8-121.75	8/1/97	121.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B11M-S9-125	8/1/97	125	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B11M-S10-131.25	8/4/97	131.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B11M-S11-135	8/4/97	135	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B11M-S12-142.75	8/5/97	142.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)

Table 10. Results of Organic Chemical Analyses of Soil Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
B-12/MW-12M									
B12-S1-80.5	5/9/97	80.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B12-S3-86	5/9/97	86	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B12-S4-90.75	5/12/97	90.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B12-S5-95.5	5/12/97	95.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B12-S6-100.25	5/12/97	100.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B12-S7-104	5/13/97	104	8020A/8015M	0.073	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	0.049 J
B12-S8-109.75	5/13/97	109.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B12-S9-115	5/14/97	115	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B12-S10-119.75	5/14/97	119.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B12-S11-124.25	5/14/97	124.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B-13/MW-13M									
B13-S1-10	4/23/97	10	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S2-16.5	4/23/97	16.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S3-21.5	4/23/97	21.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S4-26.5	4/23/97	26.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S5-31.5	4/23/97	31.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S6-36.5	4/23/97	36.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S7-41.5	4/23/97	41.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S8-46.5	4/23/97	46.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S9-51.5	4/23/97	51.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S10-56.5	4/24/97	56.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S11-61.5	4/24/97	61.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S12-66.5	4/24/97	66.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S13-69.75	4/24/97	69.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B13-S14-74.5	4/24/97	74.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)

Table 10. Results of Organic Chemical Analyses of Soil Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethybenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
B13-S15-79.75	4/24/97	78.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B13-S16-83.5	4/24/97	85.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B13-S17-88.5	4/24/97	88.5	8020A/8015M	<MDL (3)	<MDL (2)	15	16	100	800
		8260	<MDL (0.5)						
B13-S18-91	4/25/97	91	8020A/8015M	<MDL (0.005)	0.0031 J	0.0041 J	0.042	0.011 J	0.095 J
B13-S19-95	4/28/97	95	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B13-S20-100.25	4/28/97	100.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B13-S21-105.5	4/29/97	105.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B13-S22-112.5	4/29/97	112.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B13-S23-116	4/29/97	116	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B13-S24-121	4/30/97	121	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
		8260	<MDL (0.5)						
B-14/MW-14M									
B14-S1-79.5	5/20/97	79.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B14-S2-84.75	5/20/97	84.75	8020A/8015M	0.0056	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B14-S3-91.25	5/21/97	91.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B14-S4-98.5	5/21/97	98.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	0.054	0.013	0.073	0.41
B14-S5-104.75	5/21/97	104.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B14-S6-110.5	5/22/97	110.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B14-S7-115.25	5/23/97	115.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B14-S8-120.25	5/23/97	120.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B14-S9-125.5	5/27/97	125.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B14-S10-129.5	5/27/97	129.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
		8260	<MDL (0.5)						
B-15									
B15-S1-79.5	6/4/97	79.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B15-S2-83.25	6/4/97	83.25	8020A/8015M	0.037	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)

Table 10. Results of Organic Chemical Analyses of Soil Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
B15-S3-88	6/5/97	88	8020A/8015M	17	1.7	1.8	0.30 J	1.4 J	8.6 J
B15-S4-95.5	6/5/97	95.5	8020A/8015M	24	2.2	4.6	0.36 J	2.3	15 J
B15-S5-101	6/6/97	101	8020A/8015M	16	14	110	28	170	1500
B15-S6-111.25	6/10/97	111.25	8020A/8015M	8260A <MDL (2)	0.076 <MDL (0.02)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B15-S7-119.5	6/11/97	119.5	8020A/8015M	8260A <MDL (0.02)	<MDL (0.005) <MDL (0.002)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B15-S8-125	6/11/97	125	8020A/8015M	8260A <MDL (0.005)	<MDL (0.005) <MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B15-S9-129.25	6/11/97	129.25	8020A/8015M	8260A <MDL (0.005)	<MDL (0.005) <MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B15-S10-136	6/13/97	136	8020A/8015M	8260A <MDL (0.005)	<MDL (0.005) <MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B-16/MW-16D									
B16-S1-11	10/2/97	11	8020A/8015M	8260A <MDL (0.005)	0.20 <MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B16-S2-21.5	10/2/97	21.5	8020A/8015M	8260A <MDL (0.005)	<MDL (0.005) 0.020	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B16-S3-31	10/2/97	31	8020A/8015M	8260A <MDL (0.005)	<MDL (0.005) 0.0034 J	<MDL (0.003)	<MDL (0.002)	0.0050 J	<MDL (0.04)
B16-S4-41	10/6/97	41	8020A/8015M	8260A <MDL (0.005)	<MDL (0.003) <MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B16-S5-50.5	10/6/97	50.5	8020A/8015M	8260A <MDL (0.005)	<MDL (0.005) <MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B16-S6-60.5	10/6/97	60.5	8020A/8015M	8260A <MDL (0.005)	<MDL (0.005) <MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B16-S7-69.75	10/6/97	69.75	8020A/8015M	8260A <MDL (0.005)	<MDL (0.005) <MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B16-S8-75	10/7/97	75	8020A/8015M	8260A <MDL (0.005)	<MDL (0.005) <MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B16-S9-80	10/7/97	80	8020A/8015M	8260A <MDL (0.005)	0.031 <MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B16-S10-87	10/7/97	87	8020A/8015M	8260A <MDL (0.005)	<MDL (0.005) <MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)

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Table 10. Results of Organic Chemical Analyses of Soil Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
B16-S11-90	10/7/97	90	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16-S12-95	10/8/97	95	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16-S13-100	10/8/97	100	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16-S14-105	10/9/97	105	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16-S15-110.25	10/9/97	110.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16-S16-115.25	10/10/97	115.25	8020A/8015M	0.043	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16-S17-120	10/10/97	120	8020A/8015M	0.0066	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16-S18-126	10/10/97	126	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16-S19-129.25	10/13/97	129.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16-S20-134.5	10/13/97	134.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16-S21-139.75	10/14/97	139.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16-S22-145	10/14/97	145	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16-S23-150.25	10/14/97	150.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B-16/MW-16M									
B16M-S1-109.75	10/30/97	109.75	8020A/8015M	0.025	<MDL (0.003)	<MDL (0.002)	0.0053	0.0108 J	<MDL (0.04)
B16M-S2-115.5	10/31/97	115.5	8020A/8015M	0.13	<MDL (0.003)	<MDL (0.002)	0.0059	<MDL (0.005)	<MDL (0.04)
B16M-S3-123.25	10/31/97	123.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B16M-S4-130.75	11/4/97	130.75	8020A/8015M	0.0086	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)
B-17S/MW-17S									
B17S-S1-12	9/4/97	12	8020A/8015M	0.0065	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	<MDL (0.04)

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Table 10. Results of Organic Chemical Analyses of Soil Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
B17S-S2-31	9/4/97	31	8020A/8015M	0.0062	<MDL (0.003)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)
B17S-S3-41	9/4/97	41	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B17S-S4-51	9/4/97	51	8020A/8015M	0.0062	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B17S-S5-61	9/4/97	61	8020A/8015M	0.0078	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B17S-S6-70-25	9/4/97	70.25	8020A/8015M	0.0085	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.005)
B17S-S7-79-75	9/5/97	79.75	8020A/8015M	0.021	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B17S-S8-85	9/5/97	85	8020A/8015M	0.19	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.005)
B17S-S9-90.5	9/8/97	90.5	8020A/8015M	0.0064	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B-17S2/MW-17S2									
B17S2-S10-95.25	9/11/97	95.25	8020A/8015M	0.0081	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B17S2-S11-102.5	9/12/97	102.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B17S2-S12-110.5	9/15/97	110.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B-17MW-17M									
B17M-S13-111.5	9/18/97	111.5	8020A/8015M	820	<MDL (0.003)	1.1	<MDL (0.002)	1.1	9.5
B17M-S14-116	9/18/97	116	8020A/8015M	0.55	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B17M-S15-120.5	9/18/97	120.5	8020A/8015M	0.022	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B17M-S16-126	9/19/97	126	8020A/8015M	0.025	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B17M-S17-129.75	9/22/97	129.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B17M-S18-136	9/22/97	136	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B17M-S19-139.5	9/23/97	139.5	8020A/8015M	0.180	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)
B17M-S20-146	9/23/97	146	8020A/8015M	0.130	0.0075J	<MDL (0.003)	<MDL (0.002)	<MDL (0.002)	<MDL (0.004)

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Table 10. Results of Organic Chemical Analyses of Soil Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
B-18/MW-18M									
B18-S1-11	8/13/97	11	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S2-21	8/13/97	21	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S3-30.5	8/13/97	30.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S4-41	8/13/97	41	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S5-51	8/13/97	51	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S6-61	8/13/97	61	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S7-70.75	8/14/97	70.75	8020A/8015M	0.085	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S8-75.75	8/14/97	75.75	8020A/8015M	0.027	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S9-80.75	8/14/97	80.75	8020A/8015M	0.20	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S10-85.75	8/15/97	85.75	8020A/8015M	1.1	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S11-92	8/18/97	92	8020A/8015M	7000	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S12-109.75	8/20/97	109.75	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S13-115	8/21/97	115	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S14-120.5	8/22/97	120.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S15-125.5	8/22/97	125.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S16-130.5	8/22/97	130.5	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S17-135.25	8/22/97	135.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S18-140	8/25/97	140	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	
B18-S19-145	8/25/97	145	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)	

Table 10. Results of Organic Chemical Analyses of Soil Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
B-18-S20-150.25									
B18-S21-155.25	8/25/97	150.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B18-S21-155.25	8/25/97	155.25	8020A/8015M	<MDL (0.005)	<MDL (0.003)	<MDL (0.003)	<MDL (0.002)	<MDL (0.005)	<MDL (0.04)
B-19/MW-19M									
B19-S1-11.5	11/12/97	11.5	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S2-20	11/12/97	20	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S3-30	11/13/97	30	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S4-40	11/13/97	40	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S5-49.5	11/13/97	49.5	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S6-59.5	11/13/97	59.5	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S7-70	11/13/97	70	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S8-83.5	11/14/97	83.5	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S9-85.75	11/14/97	85.75	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S10-89.25	11/14/97	89.25	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S11-97	11/14/97	97	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S12-99.5	11/17/97	99.5	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S13-102	11/17/97	102	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S14-104.25	11/18/97	104.25	8020A/8015M	<MDL (0.5)	<MDL (0.1)	1.3	1.4	7.6	140
B19-S15-110.75	11/18/97	110.75	8020A/8015M	<MDL (10)	<MDL (6)	100	100	600	6200
B19-S16-114.75	11/18/97	114.75	8020A/8015M	<MDL (0.005)	<MDL (0.001)	0.0015 J	0.0021 J	0.0095 J	0.13 J
B19-S17-125	11/20/97	125	8020A/8015M	<MDL (0.005)	<MDL (0.001)	0.0038 J	<MDL (0.001)	<MDL (0.005)	<MDL (0.04)
B19-S18-130.5	11/20/97	130.5	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S19-135.75	11/20/97	135.75	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)
B19-S20-149.25	11/24/97	149.25	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.005)	<MDL (0.04)

Table 10. Results of Organic Chemical Analyses of Soil Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-G (mg/kg)
B19-S21-155.5	11/25/97	155.5	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.04)
B19-S22-159.5	11/25/97	159.5	8020A/8015M	<MDL (0.005)	<MDL (0.001)	<MDL (0.001)	<MDL (0.001)	<MDL (0.005)	<MDL (0.04)

Notes:

Specific numerical values are listed for only results exceeding the Estimated Quantification Limits (EQI), results with a value between EQI and Method Detection Limit (MDL) are reported with a J flag, and results below their respective MDLs are reported as "<MDL".

1. TPH-G: total petroleum hydrocarbons as gasoline

2. MTBE: methyl tertiary butyl ether

3. bgs: below ground surface

4. mg/kg: milligram per kilogram

* These specific results were obtained from a higher dilution than the other constituents for this sample.

Table II. Results of Organic Chemical Analyses of Depth-Specific (Simulprobe) Groundwater Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethylbenzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	TPH-G ($\mu\text{g/L}$)
B-7/MW-7D									
B7-GW1-95.5	3/24/97	95.5	8020A/8015M	300 J	550	10000	3500	25000	82000
B7-GW2-88	3/24/97	88	8020A/8015M	360 J	900	13000	3800	27000	91000
B7-GW3-106	3/27/97	106	8020A/8015M	1300	2300	26000	3900	24000	84000
B7-GW4-120	3/28/97	120	8020A/8015M	540	950	17000	3000	18000	84000
B7-GW6-120-130	3/28/97	120-130	8020A/8015M	11	14	170	24	150	910
B7-GW6-133	3/31/97	133	8020A/8015M	<MDL (2)	<MDL (0.3)	3.0	2.6 J	16	54 J
B7-GW7-135	4/1/97	135	8020A/8015M	<MDL (2)	<MDL (0.3)	1.2 J	<MDL (0.2)	1.7 J	<MDL (40)
			8260 A	<MDL (2)	<MDL (0.2)	1.1 J	0.32 J	<MDL (2)	
B7-GW8-148	4/1/97	148	8020A/8015M	<MDL (2)	0.53 J	4.5	0.88 J	4.7 J	43 J
			8260 A	<MDL (2)	0.35 J	3.7 J	0.79 J	4.1 J	
B7-GW9-159	4/2/97	159	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B7-GW10-165	4/3/97	165	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B-8/MW-8M									
B8-GW1-90.5	7/7/97	90.5	8020A/8015M	1000	19000	42000	2800	16000	120000
B8-GW2-99	7/8/97	99	8020A/8015M	8260 A	12000	11000	36000	2700	16000
B8-GW3-110	7/9/97	110	8020A/8015M	8260 A	1300	1700 J	5.6	0.60 J	3.5 J
B8-GW4-122	7/10/97	122	8020A/8015M	<MDL (2)	1.8 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B8-GW5-131.5	7/10/97	131.5	8020A/8015M	<MDL (2)	<MDL (0.3)	1.1 J	<MDL (0.2)	0.85 J	<MDL (40)
B8-GW6-132	7/11/97	132	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B8-GW7-143	7/14/97	143	8020A/8015M	<MDL (2)	<MDL (0.3)	0.35 J	<MDL (0.2)	<MDL (0.5)	<MDL (40)

Table II. Results of Organic Chemical Analyses of Depth-Specific (Simulprobe) Groundwater Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	TPH-G (ug/L)
B-3/MW-2S									
B9S-GW1-80	12/9/97	80	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)	
B9S-GW3-89.5	12/10/97	89.5	8020A/8015M	<MDL (2)	0.75 J	0.41 J	0.28 J	0.74 J	120 J
B9S-GW4-103.5	10/17/97	103.5	8020A/8015M	710	140	0.57 J	2.7 J	0.55 J	1700
B9S-GW5-113.5	12/18/97	113.5	8020A/8015M	1600	0.75 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B9S-GW6-123.5	12/19/97	123.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	0.51 J	<MDL (40)
B9S-GW7-133.5	12/19/97	133.5	8020A/8015M	<MDL (2)	<MDL (0.3)	0.30 J	<MDL (0.2)	0.61 J	<MDL (40)
B9S-GW8-143	12/20/97	143	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B-4/MW-11S									
B11-GW1-89.5	7/24/97	89.5	8020A/8015M	3400	180	1500	1900	11000	40000
B11-GW2-98.5	7/28/97	98.5	8020A/8015M	8260A	4300	130	2200	1200	
B-11M/MW-11M									
B11M-GW3-109	7/31/97	109	8020A/8015M	7400	36	0.88 J	91	<MDL (0.5)	310
B11M-GW4-119.	8/1/97	119.5	8020A/8015M	8260A	7500	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B11M-GW5-131.	8/4/97	131.5	8020A/8015M	8260A	2.2 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B11M-GW6-145.	8/5/97	145.5	8020A/8015M	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B-12MW-12M									
B12-GW1-86	5/9/97	86	8020A/8015M	<MDL (10)	11 J	21	490	2000	17000
B12-GW2-103	5/12/97	103	8020A/8015M	3.4 J	<MDL (3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)	
B12-GW3-113	5/13/97	113	8020A/8015M	<MDL (2)	<MDL (2)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B12-GW4-124	5/14/97	124	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)

Table II. Results of Organic Chemical Analyses of Depth-Specific (Simulprobe) Groundwater Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethylbenzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	TPH-G ($\mu\text{g/L}$)
B-13/MW-13M									
B13-GW1-102.5	4/28/97	102.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B13-GW2-113	4/29/97	113	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B13-GW3-121.5	4/30/97	121.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B-14/MW-14M									
B14-GW1-89	5/20/97	89	8020A/8015M	5.2	1.5 J	0.36 J	<MDL (0.2)	0.83 J	<MDL (40)
B14-GW2-111.5	5/22/97	111.5	8020A/8015M	4.9 J					
B14-GW3-122.5	5/23/97	122.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B14-GW4-132	5/21/97	132	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
MW-14S									
B14S-GW5-103	5/29/97	103	8020A/8015M	6.1	0.70 J	0.55 J	<MDL (0.2)	0.54 J	<MDL (40)
B-15									
B15-GW1-88.5	6/5/97	88.5	8020A/8015M	180000	17000	19000	2500 J	12000	85000 J
B15-GW2-95.5	6/5/97	95.5	8020A/8015M	160000	170000	35000	69000	4400	200000 J
B15-GW3-101	6/6/97	101	8020A/8015M	169000	17000	12000	19000	4000	27000
B15-GW4-115	6/10/97	115	8020A/8015M	16000	12	12	25	13	130 J
B15-GW5-122	6/11/97	122	8020A/8015M	3.0 J	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B15-GW6-137.5	6/13/97	137.5	8020A/8015M	<MDL (0.005)	<MDL (2)	<MDL (0.003)	0.0039 J	0.0027 J	0.013 J
									0.15 J

Table II. Results of Organic Chemical Analyses of Depth-Specific (Simulprobe) Groundwater Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethylbenzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	TPH-G ($\mu\text{g/L}$)
B-16/MW-16D									
B16-GW1-83	10/7/97	83	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B16-GW3-94.5	10/8/97	94.5	8020A/8015M	<MDL (2)	0.32 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B16-GW4-103	10/9/97	103	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B16-GW5-107.5	10/10/97	107.5	8020A/8015M	1500	0.35 J	0.35 J	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B16-GW6-117.5	10/10/97	117.5	8020A/8015M	87	<MDL (0.3)	0.33 J	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B16-GW7-127.5	10/10/97	127.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B16-GW8-137.5	10/13/97	137.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B16-GW9-147.5	10/14/97	147.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
MW-16S									
B16S-GW1-88.5	10/20/97	88.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B16S-GW2-101	10/22/97	101	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B-16M/MW-16M									
B16M-GW1-82	10/27/97	82	8020A/8015M	<MDL (2)	<MDL (0.3)	0.31 J	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B16M-GW2-110	10/30/97	110	8020A/8015M	18000	4400	1000	360	510	9900
B16M-GW4-119	10/31/97	119	8020A/8015M	660	0.47 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B16M-GW5-131	11/4/97	131.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B16M-GW6-140	11/4/97	140	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B16M-GW7-149	11/5/97	149.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B-17SM/W-17S									
B17S-GW1-85.5	9/5/97	85.5	8020A/8015M	2200	<MDL (0.3)	<MDL (0.3)	1.8 J	52 J	
						1800			

Table II. Results of Organic Chemical Analyses of Depth-Specific (Simulprobe) Groundwater Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	TPH-G (ug/L)
B-17S2/MW-17S2	9/11/97	92	8020A/8015M	270	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	69 J
B17S2-GW2-92	9/11/97		8260A	260					
B17S2-GW3-106	9/15/97	106.5	8020A/8015M	5.1	0.58 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B-17MW-17M			8260A	2.9 J					
B17M-GW4-116	9/18/97	116.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.2)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B17M-GW6-128	9/19/97	128	8260 A	<MDL (2)	0.32 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B17M-GW7-139	9/23/97	139.5	8020A/8015M	2.5 J	<MDL (2)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B17M-GW8-149	9/23/97	149	8260A	2.6 J	<MDL (0.3)	0.38 J	<MDL (0.2)	0.68 J	<MDL (40)
B17M-GW9-159	9/25/97	159.5	8020A/8015M	<MDL (2)	<MDL (0.3)	0.35 J	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B-18/MW-18M			8260A	<MDL (2)	<MDL (0.3)	<MDL (0.2)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B18-GW1-86.5	8/15/97	86.5	8020A/8015M	31000	<MDL (0.3)	0.35 J	<MDL (0.2)	<MDL (0.5)	2000
B18-GW2-94	8/18/97	94	8020A/8015M	28690					
B18-GW4-110.5	8/20/97	110.5	8020A/8015M	630	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)	
B18-GW6-117.5	8/21/97	117.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)	
B18-GW7-129	8/22/97	129	8020A/8015M	2.9 J	0.40 J	0.37 J	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B18-GW8-139.5	8/22/97	139.5	8020A/8015M	2.5 J	0.37 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B18-GW9-149.5	8/25/97	149.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)	
B18-GW10-159.5	8/25/97	159.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)	

Table 11. Results of Organic Chemical Analyses of Depth-Specific (Simulprobe) Groundwater Samples

Sample ID/ Location	Sample Date	Sample Depth (feet bgs)	EPA Method	MTBE (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	TPH-G (ug/L)
B-19/MW-19M									
B19-GW1-89.5	11/14/97	89.5	8020A/8015M	<MDL (2)	<MDL (0.3)	0.88 J	<MDL (0.2)	<MDL (0.5)	120 J
B19-GW2-102.25	11/17/97	102.25	8020A/8015M	24 J	250	7.8 J	460	250	6700
B19-GW4-111.25	11/18/97	111.25	8020A/8015M	140	1400	21000	4100	25000	120000
B19-GW5-119.25	11/18/97	119.25	8020A/8015M	8260 A	<MDL (20)	1.2 J	18	9.7	350
B19-GW6-128	11/20/97	128	8020A/8015M	<MDL (2)	<MDL (2)	0.79 J	<MDL (0.2)	0.90 J	<MDL (40)
B19-GW7-137.5	11/21/97	137.5	8020A/8015M	<MDL (2)	<MDL (0.3)	0.35 J	<MDL (0.2)	<MDL (0.5)	<MDL (40)
B19-GW8-149.5	11/24/97	149.5	8020A/8015M	<MDL (2)	<MDL (0.3)	0.60 J	<MDL (0.2)	0.79 J	<MDL (40)
B19-GW9-161.5	11/25/97	161.5	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)

Notes:

Specific numerical values are listed for results exceeding the Estimated Quantification Limits (EQL), results with a value between EQL and Method Detection Limit (MDL) are reported with a J flag, and results below their respective MDLs are reported as "<MDL".

1. TPH-G: total petroleum hydrocarbons as gasoline

2. MTBE: methyl tertiary butyl ether

3. bgs: below ground surface

4. ug/L: microgram per Liter

* Due to sample matrix, results are reported in milligram/kilogram (mg/kg)

Table 12. Results of Organic Chemical Analyses of Groundwater Samples Collected Immediately After Well Development

Sample ID/ Location	Sample Date	EPA Method	MTBE (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	TPH-G (ug/L)
MW-7D	4/10/97	8020A/8015M	<MDL (2)	<MDL (0.3)	3.1	<MDL (0.2)	<MDL (0.5)	<MDL (40)
MW-7M	4/22/97	8020A/8015M	23	1.7 J	<MDL (0.3)	0.82 J	<MDL (0.5)	<MDL (40)
MW-7S	4/22/97	8020A/8015M	1300	27 J	210	220	4000	18000
		8260A	1200					
MW-8M	7/22/97	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
MW-8S	7/23/97	8020A/8015M	5200	3100	7700	390	5600	39000
		8260A	5900					
MW-9M	12/6/97	8020A/8015M	550	81	8.0	5.4	12	160 J
		8260A	480					
MW-9S	12/22/97	8020A/8015M	<MDL (2)	4.9	1.3 J	3.1	2.9 J	330
MW-11M	8/11/97	8020A/8015M	5000	200	2.7 J	5.8	5.1 J	1800
		8260A	4500					
MW-11S	8/8/97	8020A/8015M	1800	1100	10000	2100	18000	72000
		8260A	2000					
MW-12M	5/16/97	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
MW-12S	5/17/97	8020A/8015M	<MDL (20)	27 J	12 J	330	1200	10000
MW-13M	5/8/97	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
MW-13S	5/9/97	8020A/8015M	<MDL (10)	240	410	540	3700	12000
MW-14M	6/3/97	8020A/8015M	<MDL (2)	0.75 J	27	1.0 J	4.7 J	55 J
MW-14S	6/2/97	8020A/8015M	240	220	2000	200	1000	5300
		8260	200					
MW-15M	6/30/97	8020A/8015M	7.6	<MDL (0.3)	<MDL (0.3)	7.0	<MDL (0.5)	<MDL (40)
		8260A	9.1 J					

Table 12. Results of Organic Chemical Analyses of Groundwater Samples Collected Immediately After Well Development

Sample ID/ Location	Sample Date	EPA Method	MTBE ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethylbenzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	TPH-G ($\mu\text{g/L}$)
MW-15S	6/30/97	8020A/8015M	170000	17000	26000	1900 J	14000	86000 J
		8260A	230000					
MW-16D	11/11/97	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
MW-16M	11/13/97	8020A/8015M	11000	2400	1000	280 J	570 J	7600 J
MW-16S	11/12/97	8020A/8015M	12000	2.0 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
		8260A	<MDL (2)					
MW-17M	10/3/97	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
MW-17S	10/1/97	8020A/8015M	220	1.3 J	1.3 J	<MDL (0.2)	2.1 J	110 J
		8260A	160					
MW-17S2	10/1/97	8020A/8015M	130	0.40 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
		8260A	97					
MW-18M	9/3/97	8020A/8015M	<MDL (2)	0.45 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
MW-18S	9/4/97	8020A/8015M	28000	1.8 J	0.78 J	<MDL (0.2)	<MDL (0.5)	<MDL (40)
		8260A	35000					
MW-19M	12/22/97	8020A/8015M	<MDL (2)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (40)
MW-19S	12/22/97	8020A/8015M	<MDL (200)	620	6400	1800	11000	50000

Notes:

Specific numerical values are listed for only results exceeding the Estimated Quantification Limits (EQL), results with a value between EQL and Method Detection Limit (MDL) are reported with a J flag, and results below their respective MDLs are reported as "<MDL".

1. TPH-G: total petroleum hydrocarbons as gasoline

2. MTBE: methyl tertiary butyl ether

3. $\mu\text{g/L}$: microgram per Liter

Table 13. Results of Organic Chemical Analyses of Groundwater Samples Collected During Quarterly Groundwater Monitoring

Well	Date	MTBE 8020 ($\mu\text{g/L}$)	MTBE 8260 ($\mu\text{g/L}$)	TPH-G ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	DIP _E 8260 ($\mu\text{g/L}$)	ETBE 8260 ($\mu\text{g/L}$)	TAME 8260 ($\mu\text{g/L}$)	TBA 8260 ($\mu\text{g/L}$)
MW-7D												
	7/2/97	<MDL (2.0)	NA	<MDL (40)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	NA	NA	NA	NA	NA
	9/16/97	<MDL (2.0)	NA	<MDL (40)	<MDL (0.3)	<MDL (0.2)	0.55 J	NA	NA	NA	NA	NA
	10/27/97	<MDL (2.0)	<MDL (2.0)	<MDL (40)	0.46 J	1.6 J	0.21 J	1.1 J	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	2/9/98	3.8 J	<MDL (2.0)	<MDL (40)	2.2 J	0.74 J	<MDL (0.2)	<MDL (0.5)	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/20/98	17	21	420	19	75	16	110	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
MW-7M												
	7/2/97	35	NA	<MDL (40)	1.5 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	NA	NA	NA	NA
	9/16/97	120	100	<MDL (40)	0.47 J	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	NA	NA	NA	NA
	10/27/97	<MDL (2.0)	<MDL (2.0)	<MDL (40)	<MDL (0.3)	0.65 J	<MDL (0.2)	<MDL (0.5)	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	2/9/98	23	8.2	<MDL (40)	<MDL (0.3)	0.70 J	<MDL (0.2)	<MDL (0.5)	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/20/98	65	71	620	44	140	25	170	<MDL (2.0)	<MDL (2.0)	3.0 J	<MDL (3.0)
MW-7S												
	7/2/97	38	NA	920	8.0	8.5	35	150	NA	NA	NA	NA
	9/17/97	1200	800	750	11	2.3 J	6.8	24	NA	NA	NA	NA
	10/28/97	460	580	800 J	68	16 J	53	160	1.2	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	2/11/98	1300	860	5000	49	110	34	79	<MDL (2.0)	<MDL (5.0)	<MDL (5.0)	180
	4/21/98	600	580	1400	13	25	16	51	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	128

Table 13. Results of Organic Chemical Analyses of Groundwater Samples Collected During Quarterly Groundwater Monitoring

Well	Date	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	TPH-G (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	DPE 8260 (ug/L)	ETBE 8260 (ug/L)	TAME 8260 (ug/L)	TBA 8260 (ug/L)
MW-8M	9/16/97	<MDL (2.0)	NA	<MDL (40)	<MDL (0.3)	0.45 J	<MDL (0.2)	<MDL (0.5)	NA	NA	NA	NA
	10/27/97	<MDL (2.0)	<MDL (2.0)	<MDL (40)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)	<MDL (3.0)
	2/11/98	<MDL (2.0)	<MDL (2.0)	<MDL (40)	<MDL (0.3)	1.1 J	<MDL (0.2)	1.4 J	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/20/98	510	630*	1200	130	290	43	280	10	<MDL (2.0)	28	<MDL (50)
MW-8S	9/17/97	2800	210 J	13000	1400	3600	400	2300	NA	NA	NA	NA
	10/28/97	1600	1000	61000	4600	15000	2100	10000	<MDL (20)	<MDL (100)	<MDL (100)	<MDL (200)
	2/11/98	920 J	382	30000 J	3700	9400	800	2500	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	190
	4/20/98	300	310	2900	140	200	70	150	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)
MW-9M	2/9/98	3100	1800	920 J	600	25 J	20	3.8 J	<MDL (2.0)	<MDL (10)	<MDL (10)	<MDL (20)
	4/21/98	4600	4700	1500 J	250	54 J	80 J	110 J	<MDL (10)	<MDL (10)	<MDL (10)	<MDL (250)
MW-9S	2/9/98	22	<MDL (2.0)	130 J	23 J	<MDL (0.3)	<MDL (0.2)	0.58 J	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/21/98	17	16	180	5.9	14	3.3	31	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)
MW-11M	9/16/97	20000	13000	890	1000	5.6	20	1.5 J	NA	NA	NA	NA
	9/29/97	27000	24000	960	1000	8.1	24	<MDL (0.5)	NA	NA	NA	NA
	10/10/97	18000	16000	1200 J	870	6.2 J	23	<MDL (3.0)	NA	NA	NA	NA
	10/27/97	18000	22000	<MDL 8000	690	<MDL (60)	<MDL (40)	<MDL (100)	5 J	<MDL (2.0)	10	<MDL (3.0)
	2/11/98	7100	3800	36000 J	1400	690	87	420	<MDL (4.0)	<MDL (20)	<MDL (20)	460
	4/21/98	9400	10000	30000	1000	170	<MDL (33)	130 J	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	390

Table 13. Results of Organic Chemical Analyses of Groundwater Samples Collected During Quarterly Groundwater Monitoring

Well	Date	MTBE 8020 ($\mu\text{g/L}$)	MTBE 8260 ($\mu\text{g/L}$)	TPH-G ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	DPE 8260 ($\mu\text{g/L}$)	ETBE 8260 ($\mu\text{g/L}$)	TAME 8260 ($\mu\text{g/L}$)	TBA 8260 ($\mu\text{g/L}$)
MW-11S	9/17/97	1700	1100	3600	460	7200	1800	12000	NA	NA	NA	NA
	10/10/97	760	550	44000	360	8200	2100	13000	NA	NA	NA	NA
	10/28/97	360	370	41000	250	5600	1600	10600	160	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	2/11/98	490	290	13000	65	790	590	3900	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	540
	4/21/98	810	910	9900	72	980	540	3100	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	3000
MW-12M	7/2/97	<MDL (2.0)	NA	<MDL (40)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	NA	NA	NA	NA	NA
	9/16/97	<MDL (2.0)	NA	<MDL (40)	<MDL (0.3)	0.030	<MDL (0.2)	NA	NA	NA	NA	NA
	10/27/97	<MDL (2.0)	<MDL (2.0)	<MDL (40)	<MDL (0.3)	0.38	<MDL (0.2)	<MDL (0.5)	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	2/10/98	244	<MDL (2.0)	<MDL (40)	1.6	3.0	0.97	6.9	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/20/98	13	13	530	21	85	20	130	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)
MW-12S	7/2/97	<MDL (10)	NA	1400	95	4.0	360	320	NA	NA	NA	NA
	9/16/97	48	11	500	120	13	550	710	NA	NA	NA	NA
	10/28/97	15	J	<MDL (2.0)	6000	59	4.6	260	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	2/10/98	36	38	4900	44	6.6	210	200	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/21/98	21	24	3500	27	27	140	160	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)
MW-13M	7/2/97	<MDL (2.0)	NA	<MDL (40)	<MDL (0.3)	0.30	<MDL (0.2)	<MDL (0.5)	NA	NA	NA	NA
	9/16/97	<MDL (2.0)	NA	<MDL (40)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	NA	NA	NA	NA	NA
	10/27/97	<MDL (2.0)	<MDL (2.0)	<MDL (40)	<MDL (0.3)	0.37	<MDL (0.2)	<MDL (0.5)	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	2/10/98	17	74	75	31	25	2.3	5.7	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/20/98	27	28	260	11	40	74	74	<MDL (2.0)	<MDL (2.0)	201	<MDL (50)

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Table I3. Results of Organic Chemical Analyses of Groundwater Samples Collected During Quarterly Groundwater Monitoring

Well	Date	MTBE 8020 ($\mu\text{g/L}$)	MTBE 8260 ($\mu\text{g/L}$)	TPH-G ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	DPE 8260 ($\mu\text{g/L}$)	ETBE 8260 ($\mu\text{g/L}$)	TAME 8260 ($\mu\text{g/L}$)	TBA 8260 ($\mu\text{g/L}$)
MW-13S	7/2/97	<MDL (100)	NA	37000	380	280	1000	11000	NA	NA	NA	NA
	9/17/97	100	<MDL (50)	43000	190	80	130	11000	NA	NA	NA	NA
	10/28/97	670	780	41000	130 J	74 J	180 J	9500	1.1 J	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	2/10/98	280	140	2700 J	32	78	330	3600	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	104
	4/20/98	370	370	28000	<MDL (50)	75 J	200	2300	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	95 J
MW-14M	7/2/97	<MDL (2.0)	NA	<MDL (40)	<MDL (0.3)	0.32 J	<MDL (0.2)	<MDL (0.5)	NA	NA	NA	NA
	9/16/97	<MDL (2.0)	NA	<MDL (40)	<MDL (0.3)	0.55 J	<MDL (0.2)	<MDL (0.5)	NA	NA	NA	NA
	10/27/97	<MDL (2.0)	<MDL (2.0)	<MDL (40)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	2/10/98	3.2 J	<MDL (2.0)	<MDL (40)	0.46 J	2.3 J	0.47 J	2.3 J	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/20/98	24	18	260	9.6	32	5.3	51	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)
MW-14S	7/2/97	<MDL (100)	NA	31000	1300	9100	1300	5700	NA	NA	NA	NA
	9/17/97	1000	1000	20000	920	2400	660	4300	NA	NA	NA	NA
	10/28/97	1700	1200	54000 J	4300	15000	2000	10600	<MDL (20)	<MDL (100)	<MDL (100)	<MDL (200)
	2/11/98	2500	1600	2300 J	760	470	120	340	<MDL (2.0)	<MDL (10)	<MDL (10)	390
	4/20/98	6800	8400	7400	1800	340	480	890	<MDL (10)	<MDL (10)	<MDL (10)	1000
MW-15M	7/2/97	16	NA	<MDL (40)	0.36 J	0.48 J	15	<MDL (0.5)	NA	NA	NA	NA
	9/16/97	12	9.2 J	<MDL (40)	0.52 J	0.79 J	2.3 J	<MDL (0.5)	NA	NA	NA	NA
	10/27/97	12	9.1	<MDL (40)	0.57 J	0.95 J	0.53 J	0.58 J	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	2/10/98	9.5	11	<MDL (40)	0.63 J	1.8 J	0.35 J	7.4 J	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/20/98	23	21	260	12	43	8.0	70	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)

Table 13. Results of Organic Chemical Analyses of Groundwater Samples Collected During Quarterly Groundwater Monitoring

Well	Date	MTBE 8020 ($\mu\text{g/L}$)	MTBE 8260 ($\mu\text{g/L}$)	TPH-G ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	DIP _E 8260 ($\mu\text{g/L}$)	ETBE 8260 ($\mu\text{g/L}$)	TAME 8260 ($\mu\text{g/L}$)	TBA 8260 ($\mu\text{g/L}$)
MW-15S	7/2/97	170000	190000	99000	19000	30000	2100	17000	NA	NA	NA	NA
	9/17/97	92000	79000	130000	21000	27000	3500	19000	NA	NA	NA	NA
	10/28/97	33000	29000	55000	8000	7700	2800	9000	<MDL (20)	<MDL (100)	<MDL (100)	<MDL (200)
	2/11/98	32000	19000	31000	7000	2200	2300	3200	<MDL (20)	<MDL (100)	<MDL (100)	7800
	4/20/98	32000	35000	30000	6100	2100	2400	3600	<MDL (10)	<MDL (10)	<MDL (10)	17000
MW-16D	2/11/98	15	8.8	<MDL (40)	1.4	3.7	0.56	3.0	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/20/98	30	30	320	42	40	11	67	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)
MW-16M	2/11/98	14000	8100	5700	3000	98	250	91	<MDL (10)	<MDL (50)	<MDL (50)	960
	4/20/98	12000	10000	3600	1800	771	170	99	<MDL (10)	<MDL (10)	<MDL (10)	490
MW-16S	2/11/98	<MDL (2.0)	<MDL (2.0)	51	0.98	3.3	0.83	3.2	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/20/98	7.6	6.4	230	3.7	21	1.9	18	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)
MW-17M	10/27/97	<MDL (2.0)	<MDL (2.0)	<MDL (40)	0.32	0.79	<MDL (0.2)	0.71	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	2/10/98	4.4	J	<MDL (2.0)	<MDL (40)	0.52	<MDL (0.3)	<MDL (0.5)	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/20/98	25	24	300	16	54	11	85	<MDL (2.0)	<MDL (2.0)	2.0	<MDL (50)
	10/28/97	66	—	75	66	<MDL (0.3)	0.39	<MDL (0.5)	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
MW-17S	2/10/98	90	110	—	0.53	0.43	0.29	2.6	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	8
	4/20/98	220	230	370	12	37	7.2	72	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)

Table 13. Results of Organic Chemical Analyses of Groundwater Samples Collected During Quarterly Groundwater Monitoring

Well	Date	MTBE 8020 ($\mu\text{g/L}$)	MTBE 8260 ($\mu\text{g/L}$)	TPH-G ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	DIPPE 8260 ($\mu\text{g/L}$)	ETBE 8260 ($\mu\text{g/L}$)	TAME 8260 ($\mu\text{g/L}$)	TBA 8260 ($\mu\text{g/L}$)
MW-17S2	10/28/97	170	—	<MDL (40)	0.79 J	0.65 J	<MDL (0.2)	0.77 J	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	2/10/98	81	94	<MDL (40)	0.31 J	0.89 J	0.71 J	—	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/20/98	68	58	670	27	100	24	170	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)
	9/16/97	27	21	<MDL (40)	<MDL (0.3)	0.36 J	<MDL (0.2)	<MDL (0.5)	NA	NA	NA	NA
	10/27/97	<MDL (2.0)	28	220 J	1.2 J	0.88 J	<MDL (0.2)	0.93 J	—	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
MW-18S	2/10/98	19	23	170 J	1.2 J	—	—	—	<MDL (2.0)	1.4	—	<MDL (2.0)
	4/20/98	21	21	240	8.1	30	5.9	55	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)
	9/17/97	26000	19000	1300	170	280	—	34	—	210	—	NA
	10/28/97	35000	30000	530 J	49	57	12 J	—	47 J	<MDL (20)	<MDL (100)	<MDL (200)
	4/20/98	56000	45000	840	130	80	30	—	120	<MDL (10)	<MDL (10)	2900
MW-19M	12/22/97	<MDL (2.0)	NA	<MDL (40)	<MDL (0.3)	<MDL (0.3)	<MDL (0.2)	<MDL (0.5)	NA	NA	NA	NA
	2/9/98	14	4.8 J	<MDL (40)	0.64 J	0.63 J	<MDL (0.2)	<MDL (0.5)	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/20/98	18	24	590	24	100	26	170	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)
	2/9/98	21 J	5.1	6400	120	890	300	—	1600	<MDL (0.4)	<MDL (2.0)	<MDL (3.0)
	4/20/98	4.9 J	8.1	430	13	47	21	95	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)
VE-4	9/17/97	29 J	16 J	11000	76	64 J	—	—	210	—	NA	NA
	10/28/97	550	670	14000	53	45	290	—	1400	<MDL (4.0)	<MDL (2.0)	<MDL (30)
	2/10/98	210	110	5400	29	6.5	90	—	570	<MDL (0.4)	<MDL (2.0)	46
	4/21/98	300	400	3200	68	140	50	—	490	<MDL(2.0)	<MDL(2.0)	6.8
	—	—	—	—	—	—	—	—	—	—	—	110

Table 13. Results of Organic Chemical Analyses of Groundwater Samples Collected During Quarterly Groundwater Monitoring

Well	Date	MTBE ($\mu\text{g/L}$)	MTBE 8260 ($\mu\text{g/L}$)	TPh-G ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	DIPE ($\mu\text{g/L}$)	ETBE ($\mu\text{g/L}$)	TAME ($\mu\text{g/L}$)	TBA ($\mu\text{g/L}$)
VE-9A**	9/17/97	170	100	5600	16 J	3.4 J	99	240	NA	NA	NA	NA
	10/28/97	140	110	6300	18 J	27	100	240	<MDL (0.4)	<MDL (2.0)	<MDL (3.0)	<MDL (3.0)
	2/10/98	<MDL (10)	6.7	4700	30	2.5 J	200	110	<MDL (0.4)	<MDL (2.0)	<MDL (2.0)	<MDL (3.0)
	4/21/98	150	120	2700	74	79	166	210	<MDL (2.0)	<MDL (2.0)	<MDL (2.0)	<MDL (50)

Notes:

Specific numerical values are listed for only results exceeding the Estimated Quantification Limits (EQL), results with a value between EQL and Method Detection Limit (MDL) are reported with a J flag, and results below their respective MDLs are reported as "<MDL".

MTBE: Methyl tertiary-butyl ether

DIPE: Di-isopropyl ether

ETBE: Ethyl tertiary-butyl ether

TAME: Tertiary-amyl methyl ether

TBA: Tertiary-butanol

NA: Not analyzed

* This specific result was obtained from a higher dilution than the other constituents for this sample.
** Chain-of-custody and lab reports list the well ID as VE-9